

April 1999

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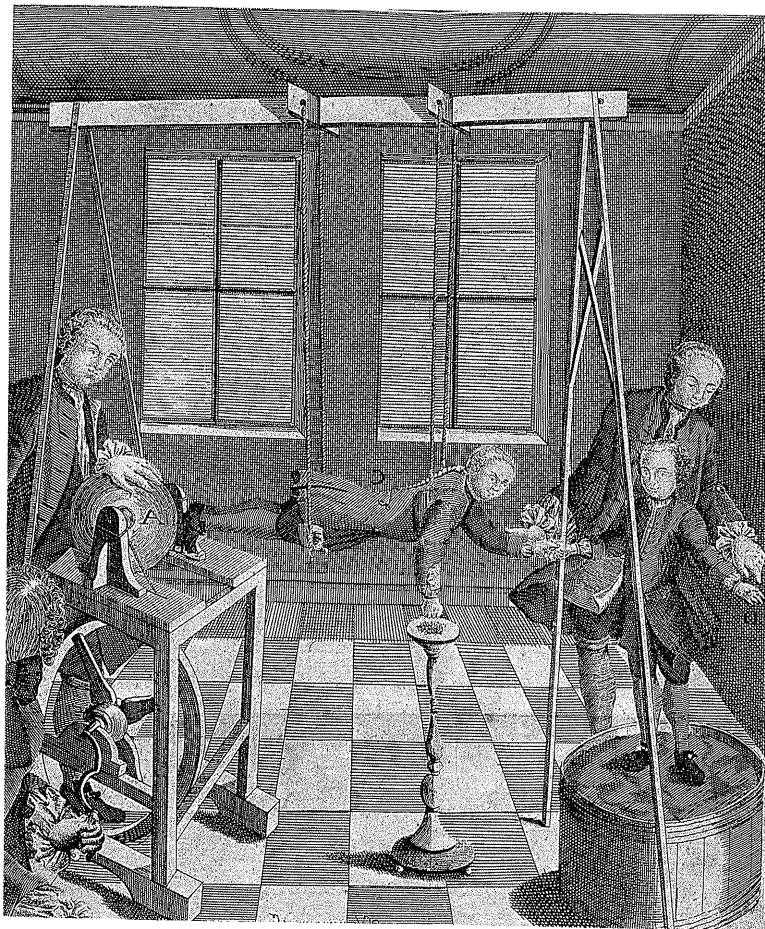
SCI-TECH NEWS

The Official Bulletin for the Engineering, Metals/Materials and Science/Technology
Divisions and the Aerospace Section of the Engineering Division of the Special
Libraries Association.

Volume 53, Number 2

May 1999

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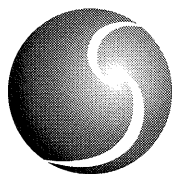
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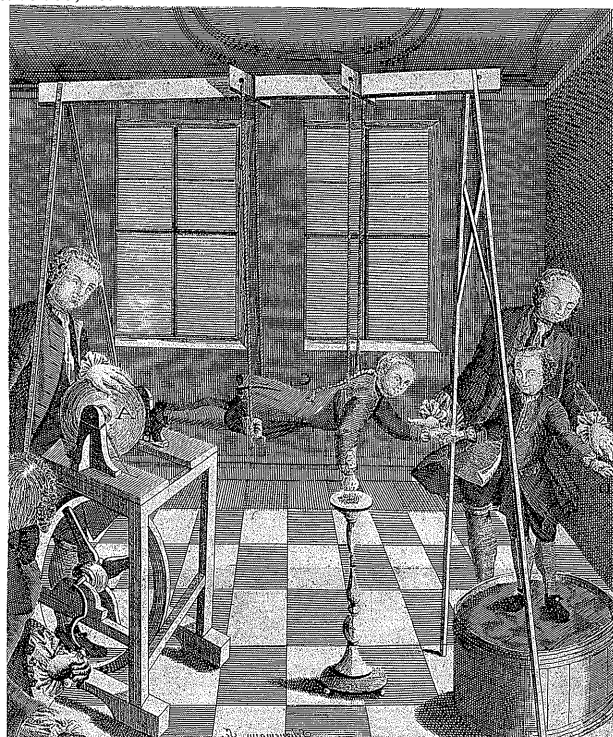
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Special Libraries Association

Vol 53 no. 2 May 1999



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Electrical demonstrations were very popular throughout Europe in the 1740s. A German professor, Christian Hausen, was one of the first to do such experiments with a frictional electric generator. In one dramatic demonstration, he suspended a boy from silk cords, with the boy's feet rubbing the generator. When the boy's nose was touched, sparks did indeed fly. An engraving of the occasion was included in Hausen's book, *Novi profectus in historia electricitatis* (Leipzig, 1743). (Photo courtesy of the Linda Hall Library of Science, Engineering and Technology, Kansas City, Missouri)

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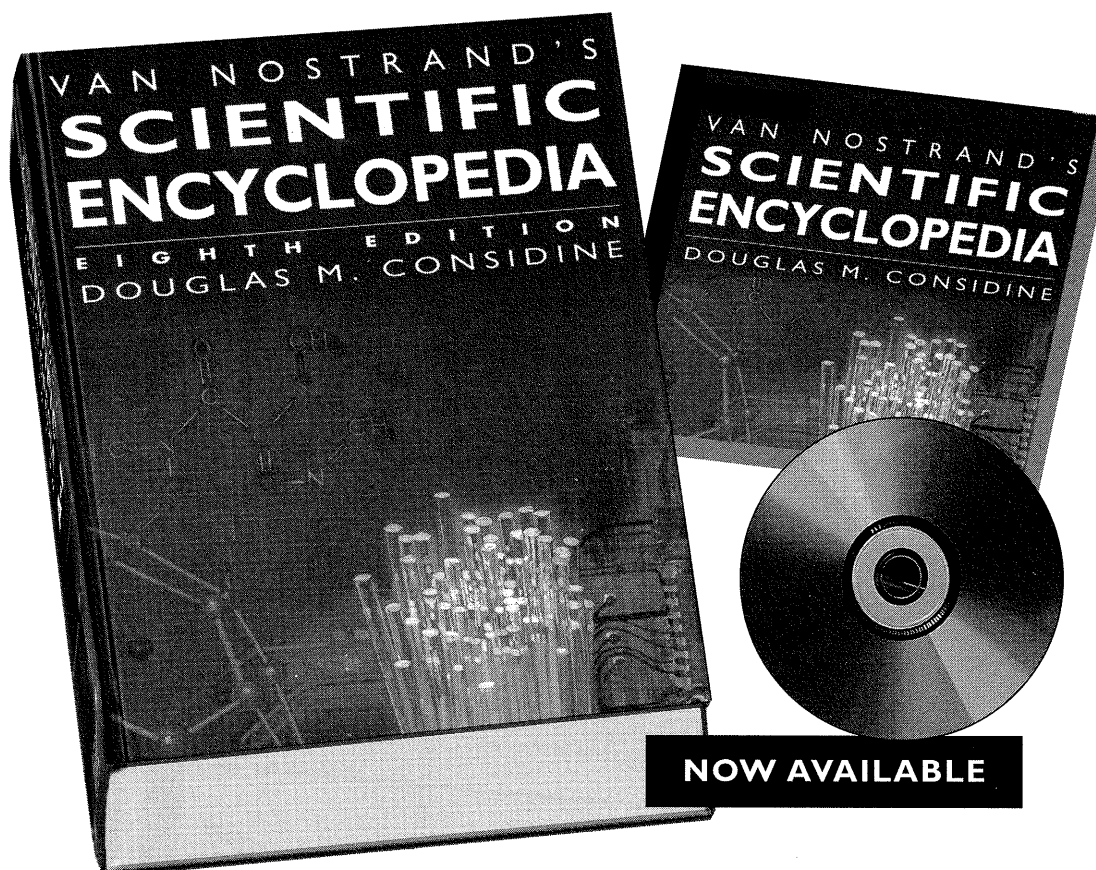
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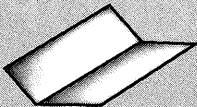
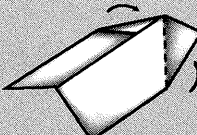
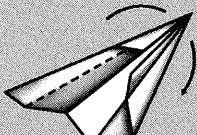

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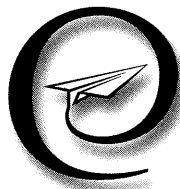
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FROM THE EDITOR

It should be obvious from a glance at the contents of the columns written by the editors of the four sponsors of *Sci-Tech News* that a lot of work has gone into the planning for the annual conference in Minneapolis. Perhaps we'll need about an extra week to take in all the highlights of the city and surrounding countryside that were described in those columns. However, I have a feeling that someone would notice if we were all about a week late returning from the conference, trying to see all the places described. So we'll just have to pick and choose what we can fit into the usual time we allot ourselves for such meetings.

To be specific, it seems to me that there are more interesting-sounding meetings and discussions than usual this year. On top of that, members of the Science-Technology Division will have more events than usual, this being the **75th anniversary** of the founding of that group. So there will be many chances to meet and greet those members, and we wish them a happy second round of 75 years! The first 75 are the hardest, as the saying goes.

The two feature articles for this issue happen to have been written by two members of the Sci-Tech Division, among others affiliations they have. The first article, by

Bonnie Osis, provides a fascinating account of the long sabbatical study she made in Europe last summer. She must have brought back voluminous notes about all the people she met and worked with during her study of the information systems related to public transportation.

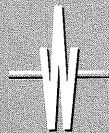
The other feature, written by Bette Stewart, describes the growth and development of the library she manages for a west coast public utility. The firm must have had visionary management since way back in 1914 when the company created its own library. There's nothing old-fashioned about the library, however; the account she wrote describes all the modern techniques and systems that are the backbone of presentday library systems.

It should be noted that a famous astronaut, Dr. Kathryn D. Sullivan, the first woman to walk in space, will be the featured speaker on Tuesday, at 9:00--10:15 a.m. She has had a busy career after her space travels, moving on to administering a model interactive science and learning center in Ohio that has attracted interest on a global basis. She easily qualifies as an outstanding role model for her sex. See also p. 20-21 for more information.

Note that results of several elections are given, along with news about award winners..

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A SABBATICAL ODYSSEY, or HAVE WHEELED LUGGAGE--WILL TRAVEL

By Bonnie Anne Osif



What is over sixteen thousand miles, thirteen planes, twenty-one trains, thirteen buses, six trams, seven subways, one ship and nine cars, six months long, many new friends, ten countries and a wealth of new knowledge? The general answer is the opportunity of a lifetime.

The specific answer is a six-month sabbatical to Europe granted to the author by The Pennsylvania State University and supported by Federal Highways and the American Association of State Highway and Transportation Officials during the second half of 1998.

The sabbatical request proposed a study of transportation information use at European transportation centers. Specific areas of interest were local collections, use of interlibrary loan, publication and dissemination of locally produced research, language skills, and Web sites and usage. The second focus was on actual information use as evidenced by an analysis of citations from a random sample of locally produced reports. Detailed analysis of the study is in progress and will be submitted to appropriate journals at a later date. Hopefully this study will be useful to librarians and the community of transportation researchers. That, after all, is the official reason for the sabbatical.

From a professional perspective, a sabbatical allows the researcher to leave daily tasks and look at librarianship from a different perspective. Reference questions are now self-generated. What do I want to investigate? What research parameters do I set and how do I propose to solve the problems? The sky can be

the limit. Structuring the research and the day is at the discretion of the librarian. This is an interesting change since so many of our days and duties are defined by tasks and deadlines for others.

Seeing how others do their job brings new insights, information, and innovations. These can be brought home and incorporated in our own work environment. At the very least, these insights give us a clearer understanding of the constraints, pressures and realities confronting our colleagues..

However, the greatest benefit of the leave is not quantifiable in the number of citations to U.S. DOT reports or how many institutions have full-text Web sites. The greatest benefits were highly qualitative and will last far longer than a particular Web site's usefulness or the publication lists that I carried home.

The Intangible Benefits

The most important benefit was gaining new colleagues and friends. Over the course of the study I interviewed twenty-four individuals: librarians, documentation specialists, computer specialists, engineers and managers. Without exception they were open, helpful and friendly. We spent hours together in the libraries. Each interview took between two and six hours. Then there were tours, introductions to additional personnel, computer demonstrations and interesting exchanges of information and opinions. We shared meals while we discussed problems, solutions and work stories. They provided travel information and recommended sights and restaurants. Some went far beyond the call of professional courtesy.

My hosts in Brno, Czech Republic took me to a restaurant specializing in the local cuisine - which is beyond excellent! Then they took me on a scenic drive through the city to the countryside

and a tour of a breath-taking castle. After donning felt slippers to protect the exquisite wood floors, we toured the building with thoughtful translation along the way. I was the only English speaker and there were several other languages represented in the group yet I was always kept informed of the commentary. The trip back to the hotel was through breathtaking vistas that I can still picture. It is a day and people that I will never forget.

In Finland I met my host on a Sunday afternoon for a tour of the newly-reopened botanical center in Helsinki, then coffee, cake and wonderful hours of conversations. The next day Finnish Road Administration planned a lunch with an administrator and engineers which gave me additional insight. The evening was shared in a pub with colleagues from Iceland.

After a rather grueling trip I arrived in Lausanne, Switzerland. When I checked into my hotel I had a dinner invitation waiting me from the librarian I was to interview. The meal was delicious and the company even better. After spending almost three weeks "on the road" it was nice to relax in a home, have a home cooked meal, drink tea and talk. I left with some English magazines to supplement my dwindling supply of reading materials and a friend I hope to keep in touch with.

Lithuania was added to my list of countries rather late since my initial contact had moved. Unlike my other visits the transportation center was not in the town with the airport and there was no easy public transportation. But this caused no difficulty because the center sent a driver and car for me. I actually walked out of the baggage claim area to find the technology transfer officer holding a sign with my name on it. I learned much about the country and the center I was to visit on the ride to Kaunas and had an interesting tour of a library and center in a country developing after years as a satellite of the former Soviet Union. The open, honest insight of my contact was invaluable.

Last instance was on my third day of my second trip. I was alone on this trip. I was tired and feeling a touch of homesickness. As I walked to the Swedish National Road Administration I noted that I would need to take a picture of the

facility. It was very attractive with the Swedish flags flying against a blue sky. Then I saw an American flag and had to smile. Thinking there must be some reason in history for flying the US flag on that day, I checked in at the reception desk and had a full day of information with some of the most dynamic, interesting, innovative and friendly colleagues I have yet come in contact with. The day flew by and as I prepared to leave for yet another train I was asked if I had seen the US flag. Then I was told it was flying for me! It had been raised to welcome me on my visit, the first US librarian to visit the facility. The picture is a special one in my memory book.

This isn't anywhere near the total number of special people and special times I encountered on the trip. I have a story for each center visited, for almost all the people in the centers and the towns I visited. The sum was so much more than the separate parts. People were the most important part of the trip. They shared their expertise, their successes and their challenges. They shared their time and their friendship. They shared their plans for their libraries. Many shared their hopes and concerns for their countries in these times of change.

And, like Blanche DuBois, I did depend on the kindness of strangers. Even with my phrase book and a smattering of language skills I needed advice and directions from many people and with only one exception those strangers were helpful and friendly.

Mind Expanding

Travel is wonderful. If possible, I would be the traveling librarian. Give me a passport, wheeled luggage, a phrase book and either a guidebook or a little time on the Web and I'm off! But, even a person with my wanderlust misses home and family and puppy. The outreach of my colleagues was thoughtful and made my travels enjoyable and lessened my homesickness. For that I am truly grateful.

Research may have been the official purpose, but people were the keystone of the trip and eye openers were on the daily agenda. The world is not just like us, but wonderfully, amazingly

varied. I was reminded time and again how much we simply take for granted.

Now, the first thing that would cross my mind with that last sentence is our technology and wealth of resources. Or maybe the freedom of communication and sharing of information. After all, we have OCLC for interlibrary loans. We all have E-mail, fax, phones, and the Web. We're so advanced, so connected. Yes, we do take that for granted, don't we?

True, I have all of those resources, but so do many of our international colleagues. In some cases as much or more than we have. No, what we tend to take for granted is that everyone does it like us - or should! Sometime it is a major library issue; other times I found myself caught in a "mindset" on a minor issue and I had to revise my thinking. And my typing!

A simple example: Helga Trantes at Federal Highway Research Institute (BAST) in Germany kindly let me use a computer to contact my family through email. I was happily typing a letter to my husband extolling the wonders of the Koln Cathedral and German cuisine when I happened to look at my text. Now, I am only an average typist but I don't make that many mistakes! Well, I was writing in a different language and it wasn't English and it wasn't German. Looking at my renegade fingers I discovered the keyboard was different from my U.S. model. Of course it was! Different letters have different frequencies and combinations in German than in English, and the keyboard logically should be different. I just never thought to look! And there were some keys with many characters that it took some time for me to figure out how to get the character I wanted on to the screen. Sounds minor? Well, one was the @ sign and that is a very important character for E-mail!

Another wonderful observation was the pride of homeland I found in the people I visited. Not a negative, 'we're better than you are' attitude, but an open willingness to share their customs, food, history, culture and beauty with an interested outsider. I found art works I absolutely love in Finland (I had never thought about Finnish art before), ate Lithuanian food that makes me long

for the time I can return, bought woolens from women at an ancient stone wall in Estonia, and watched in wonder as their fingers moved like quicksilver in the cold creating intricate patterns without a guide. I saw the "Banana Artist" put up a work in Koln and later saw a piece about him on CNN. I had the pleasure of watching several US shows in various native languages, watching MacGyver do his daring-do in English on Norwegian television while in Belgium and watched some of the local productions whenever I could. I saw Mozart in Prague in a building itself worth the price of admission. I worshipped in a myriad of churches in different languages but was made to feel at home in all of them.

A Change of Perspective

Have we ever considered what the separation of a country would do to their national libraries? Our colleagues in the former Czechoslovakia had to when special collections stayed in one part of their divided country. Now they have the challenge of rebuilding their collections. Or what about a country that reunites after decades apart? The two Germanys had various standards and procedures and now they are in the process of coordinating these differences. I had to really re-evaluate my warp speed drive to do as much as possible on the Web after several interviews with my European colleagues. I love the Web and have several sites. Even my credit instruction class has the entire course, including my textbook and extra readings, on the Web. I couldn't think why anyone wouldn't want to become completely "Web-erized." Well, not everyone is quite as Web obsessed as many Americans. Many have been more cautious users and creators - not backward, but wary, evaluative consumers. A good trait, overall.

Freedom of information created some very interesting conversations. U.S. institutions are putting more materials on the Web full text. One area of interest in the study was the use of the virtual National Transportation Library from the Bureau of Transportation Statistics. Many reports and databases are being mounted full text for all to use. In contrast, many of our European

counterparts must think of themselves as cost recovery, if not money generating units. This precludes free Web access to their materials. Several lively debates ensued with no opinions changed in the process! But I learned a great deal of respect for my colleagues that have that additional challenge integral to their job.

This leads to another interesting observation. Many of our SLA colleagues are in corporate and institutional settings and must be concerned with justifying their existence. As an academic librarian this is not a topic that is of major personal concern. However, I heard in many settings that this is a major issue. Libraries and librarians are marketing their skills, resources and products and must be sure the administration can recognize the value of their information and services.

One last professional observation was the reinforcement of the idea that there is not necessarily one right way to do something. I wrote in my observation list in my travel diary that there is not a right way but our way. And almost everyone has their way. Catalogs and cataloging rules will vary, interlibrary loan systems and databases are different, but they still accomplish their purpose. Many of my questions asked about systems we assume are utilized by the world. The answers made me see how narrowly focused I was when I wrote the survey. Adaptation is wonderful and expands our horizons!

Several things that a sabbatical is not. It is not restful. It is not a vacation. And it is not, at least when done my way, an excuse to lose weight. I would have thought dragging a suitcase and heavy shoulder bag with my study throughout Europe would have been phenomenally healthy. The study notes never left my side during the travel days. Well, I could tote that bag with the best of them, walked for hours every day and climbed more steps than I thought existed. However, I found some absolutely wonderful food at the most interesting locations, and I had to sample it! After all, when might I be back in Tallin, Estonia, or Borlange, Sweden?

And at the risk of losing my citizenship in Pennsylvania, the home of Hershey's chocolate, the

chocolate in Europe is unbelievable. It should be the fifth major food group. I expected to love Swiss chocolate, heard that German and Belgium chocolates were heavenly and already knew I loved Dutch chocolate. But when I tried Finnish chocolate, it was heaven on earth. My major souvenirs were a collection of European chocolates, and we had a taste test when I returned. Ah, the memories! Ah, the calories!

But Seriously

Did I have a good time on my sabbatical? Indefatigably no! I had an absolutely marvelous time. I have memories of castles, cathedrals, museums and mountain vistas that I hope I never forget. I will remember conversations with perfect strangers and interviews with my colleagues. I gained a greater respect and appreciation for other cultures, yet returned home very happy to see the Statue of Liberty and walk out into the sun at Newark Airport.

I learned many things about information, libraries, computers, publishing, transportation information and transportation systems. I have already completed enough of the citation analysis to realize we must consider a serious, organized collection of international materials. The next step will be a system to translate since we don't have the language skills evidenced by the vast majority of Europeans I met. As the transportation community demands the best materials concerning the best practice regardless of country of origin there will be an increased demand for more complete indexing, more rapid access and seamless translation. Economics and competition will demand it. This sabbatical was a small part in this larger area of study. Hopefully, this will encourage others to take the chance to explore - explore information, explore other ways of doing things and discover new friends/insights along the way.

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INFORMATION POWER AT OREGON'S OLDEST CORPORATE LIBRARY

By Bette Stewart



During the 90's the word "change" inundated our professional life and workplace. Special Libraries Association used it for the theme of several annual conferences. At work, we attended MOC (Managing

Organizational Change) classes. While technology accelerated our perception of the speed of change, it certainly is nothing new. Our Business Information Services (BIS) department at Portland General Electric is no exception to lifetime of changes. BIS, formerly known as the Corporate Library, began circa 1914, and is unofficially the oldest corporate library in Oregon.

Portland General Electric (PGE) originated as the Willamette Falls Electric Company in 1889. This early company was the first to transmit electricity from a generating facility (the hydroelectric plant in Oregon City) fourteen miles to Portland. Here the electricity was used to power the "horse car" lines [becoming electric trolleys] and to provide street lighting. Imagine the "change" engendered by turning night into day!

The company adopted the name "Portland General Electric Company" in 1892. Mergers during the first half of the 1900's saw several more corporate name changes. Around Portland today, you can still see manhole covers with the names of these successors to the original PGE name, such as Portland Electric Power Company (PEPCO). Years ago at a former job for a consulting engineering firm, I was weeding out old material from a file and came upon a catalog for a firm that manufactured manhole covers. Since the catalog was thirty years old, I was preparing to discard it when I was told,

"Oh, no. That catalog is still good!" So while most catalogs over six months old are apt to be ancient history, manhole covers are evidently a different matter!

In 1948, the company name reverted to Portland General Electric. It is the major electric utility for the Salem-Portland Oregon area, serving almost 704,000 customers by the end of 1998 and owning its own generating plants (hydro and thermal plants using coal or natural gas fuels). Merger once again entered PGE's history this century. In July of 1996 it was announced that the company was merging with Enron Corporation of Houston, TX. On July 1, 1997, having secured all the state and shareholder approvals, the merger was official. Like most Enron companies, PGE remains fairly autonomous in its operations. So the merger did not drastically impact the daily operations of our BIS.

Desktop delivery in the 90's

BIS staff members throughout its history proved to be early adapters of library technology and to place a strong emphasis on customer service. During the 1990's the focus was to provide information to the client's desktop-top to enable information users to obtain their answers immediately during these fast-paced times. A networked CD-ROM system, using Meridian software and towers, delivers research resources (e.g, Compendex, DOE Energy, EBSCO's Business Plus, and Computer Select) to employees' PCs.

While these are all wonderful, the CD-ROM delivery brought its own difficulties. When one is emphasizing customer service, then the system must be reliable because clients depend upon it. With company network upgrades, individual user PC

configurations and individual CD-ROM product changes, this can be a nightmare. We are thus happily migrating to Internet delivery wherever possible and affordable.

BIS also introduced electronic news resources. Daily news feeds were sent via E-mail to seven separate mailing lists covering topics such as Electric Industry News, Gas Industry News, Environmental News, and Electric Vehicle News. Maintaining an accurate mailing list was tedious, so as soon as possible these news items migrated to Intranet delivery. Now clients can access these news items and other Internet linked news or resources via our Intranet. We do debate the "push/pull" concept of reaching clients, but for these intensive news services, the "pull" concept was preferred.

Internet/Intranet Era

The Internet/Intranet era brought a new excitement to BIS. From the earliest days of gopher access we used the resources and fought to have it adopted. Our IT department had many other issues on their plates, so they weren't always appreciative of our requests. At a vendor fair hosted by PGE, one of our IT colleagues jokingly introduced two of us from the library staff as "the folks that are kicking our butts" to get an Internet connection." I loved that image! How counter to the "typical librarian" images that we usually hear!

Before our Intranet was available to employees, we developed our BIS pages and distributed them on a 3.5-inch diskette. We called this our "Intranet on a disk." It enabled staff to open the files in their browser and link to the resources we had identified. This proved a useful tool in our Internet training classes, too. We also tailored disks for specific departments or projects. It was a valuable part of introducing clients to the resources available on the www.

Well, we now have connection to our T- I Internet link on almost every PC and an Intranet/ Web Team led by Barb Buckley, formerly our library cataloger. BIS and the Intranet/Web team are functionally together since there is a synergy of information, and much of the Intranet content began and continues with BIS pages. The library

staff consists of librarians Bob Weber and myself. We also have a library technician who manages the periodical subscriptions of over 800 titles. Bob manages the CDNET and coordinates records of the research and development areas including our Electric Power Research Institute (EPRI) targets. I am focused on converting our online catalog using the Sydney product into our Inmagic DB/Textworks with accessibility via our Intranet using Inmagic's WebPublisher. We both field reference questions and the other element of providing information technology, which is training the clients to use it.

We have a training area across from our cubicles. It's our "Client Access Area." It hosts four PCs for use by clients and is where we conduct most of our individual training sessions. Initially people used this area prior to having Internet access at their desks. Now we use it to show clients how to use the products we have and to introduce new ones. Much of our current training is to show people the resources available on the corporate Intranet.

New Opportunities

Following the merger with Enron, PGE continues to operate as a regulated utility. So our BIS service remains with the core PGE departments we have always served: generation and distribution engineering, marketing, human resources, health and safety, legal, plant operations, customer service, and management. We also continue to support the unregulated new product areas of PGE. In addition, we have Enron staff assigned to Portland and frequently assist with their information needs. Also, many of our staff work on temporary assignment to specific Enron projects. They have entirely new areas of information needs. To provide services to these non-core groups, we negotiated "Service Level Agreements," and determined a charge back system. They are billed at a loaded labor rate and for all direct costs.

Recently, PGE considered selling some of its generation assets (generating plants). This is a trend in the electric industry as it moves toward deregulation. In preparation for this potential, I assisted in the organizing and cataloging of the documents which would be necessary in the event of

such a sale. Original plans were to use a word processing program. I suggested that our Inmagic DB/Textworks database would give us much more flexibility, including online access, since it was not known what formats might be needed. BIS is constantly looking for ways to add value to core business activities in this way.

PGE is in the process of decommissioning its Trojan nuclear plant. in addition to providing engineering reference resources for this team. I recently assisted as they wrote a copyright policy as part of their regulatory requirements. I had been securing copyright permissions for their submissions, so this was an extension of that service. While we have a Copyright Clearance Center (CC) contract for internal copying, this policy was to cover items needed for reports submitted to external agencies. Again, this showcases our expertise in an area not familiar to most staff.

Enron is coordinating its contracts for electronic information services favoring enterprise-wide agreements for economy and availability of usage. In January I attended a meeting in Houston, Texas, with representatives of the other major components of the Enron group. This was an opportunity for me to participate in discussions of much broader licensing agreements with many new partners. We will probably see more of this type of activity. I also met with Enron's librarian, Mary Sue Rose. We look forward to continuing and expanding our contacts to benefit the staff via resource sharing.

Information Overload

While most of the 1990's involved identifying and getting information resources to our clients, we are now faced with our clients' perception of information overload. Internet access gives them the illusion of having access to "everything." In truth, they still need training and assistance to find the "right" items in many cases. We provide filtered news/update searches for several departments and topics, getting them the core information needed.

Our BIS Intranet "pathfinder" pages provide links to pertinent and authoritative sites on various topics, helping clients get to the heart of information quickly. It can include Internet sites, company data, or other resources. We provide a

form for ordering of books and periodicals and include links to on line bookstores for quick searches. We update our Industry News pages at least once a day and can quickly add links or citations to news items. It's a communication tool as well as a training one. We work with other departments as they develop web pages and encourage them to use Intranet or document management products to simplify their communications and record keeping tasks. We participate in the Pagemaster meetings to maintain even more contact with the needs of all the departments.

The future

So change continues at PGE and our BIS. As the deregulation of the electric industry progresses, we will see more changes. But this is nothing new to a company that began in the last century as the first "long distance" transmitter of electric power, and moves eagerly into the next century. Reminders of past change are with us--be they books or manhole covers. Portland has even brought back the electric trolleys!

Bette Stewart

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METALS/MATERIALS DIVISION

Members of the Metals/Materials Division share information concerning all phases of metals and materials procurement, production, properties, applications and handling by means of educational activities, cooperative programs, publications and Division-sponsored events at annual conferences.

FROM THE CHAIR

ROBERT E. WARD

Greetings to all the Metals and Materials Members. I am taking this opportunity to wish all of you a very Happy Spring. Hopefully you have survived the winter and are renewed with the signs of improved weather, longer days and spring flowers shooting up from the ground.

Here in the Southern Ontario (Toronto-Niagara) Canada area we are normally seeing some sure signs of spring, which is a nice change from the cold winter which hit us with several major snowfalls. I now have Blue Jays (no, not the baseball team), cardinals, and robins feeding at my birdfeeder in the back yard. Unlike some of our Canadian brothers and sisters out west and out east who, as recently as Easter week-end, received an additional 25 inches (40 centimetres) of white fluffy snow. Not a nice surprise. I trust that our American friends south of the border are also experiencing the same spring-like conditions and are enjoying them as we are.

I have heard from many of you over the winter, and it has been refreshing and wonderful to get e-mails and faxes discussing some of your concerns and ideas for the Metals and Materials Program at SLA this year as well as the future direction of our group.

As far as SLA is concerned, the conference planning is going well and I would like to hear from as many of you as possible as to your intent to attend the Minneapolis event this year. The preliminary program is already out, so I hope that all of you have received it. PLEASE E-MAIL ME (robert_ward@dofasco.ca) if you are planning to attend. It will help me to organize the Monday

Night Dutch Treat (which did not get listed in the preliminary schedule but which is still on). Tuesday, of course, is our traditional Breakfast Meeting, and we have been heavily subsidized so the cost is very minimal this year. I do hope that you plan to attend. There are some other minor changes which we are making to the preliminary schedule, so if you have any questions, please do not hesitate to e-mail me or phone me at 1-800-363-2726 ext. 4745 for any further details.

You will notice however that this is the first time we are changing the structure to follow a TRACK SYSTEM. There are four main tracks for this year's conference: 1) Evolving Roles. Where We Are Going; 2) Practitioner's Tool Kit: The Nuts and Bolts; 3) Knowledge Management: What We Do; and 4) Leadership: Who We Are. We are also part of the 3M Tour, so I hope as many of you as possible will be able to stay until Thursday to attend the field trip. It promises to be informative and interesting. Please note that the City Tour, the Breakfast and the 3M Tour are all ticketed events, so you should specify each one when you register.

I am looking forward to seeing as many of you as possible in Minneapolis in June and, once again, would like to hear from you as to whether or not you can attend.

One final word is that I have heard from several people as to possibilities of our name change. I would like you to bring your suggestions with you to the conference and if you are unable to attend, please e-mail me your suggestions at the address above or fax them to me at: Dr. Robert Ward, Dofasco Inc,

(Fax: 905-548-4630).

I am really looking forward to the conference and hope to see as many of you as possible there. Meanwhile, take care, God Bless, and I hope that during those difficult times for many information specialists, ie. downsizing, cutbacks, restructuring etc., that you will persevere and continue to disseminate information throughout your organization to show management the value of information in this age when information, and information specialists are a vital asset to any organization's existence. Peace.

Metals/Materials Membership Chair
Bette Finn
NEW MEMBERS

The Metals/Materials Division
Welcomes its New Members:

(1) Shanon M. Chamberlin
Cambridge Scientific Abstracts
Internet Database Svcs
764 Steele St
Denver, CO 80206

(2) Nora R. Tillman
Albany International
777 West St.
Mansfield, MA 02048

MEMBERSHIP RECORDS

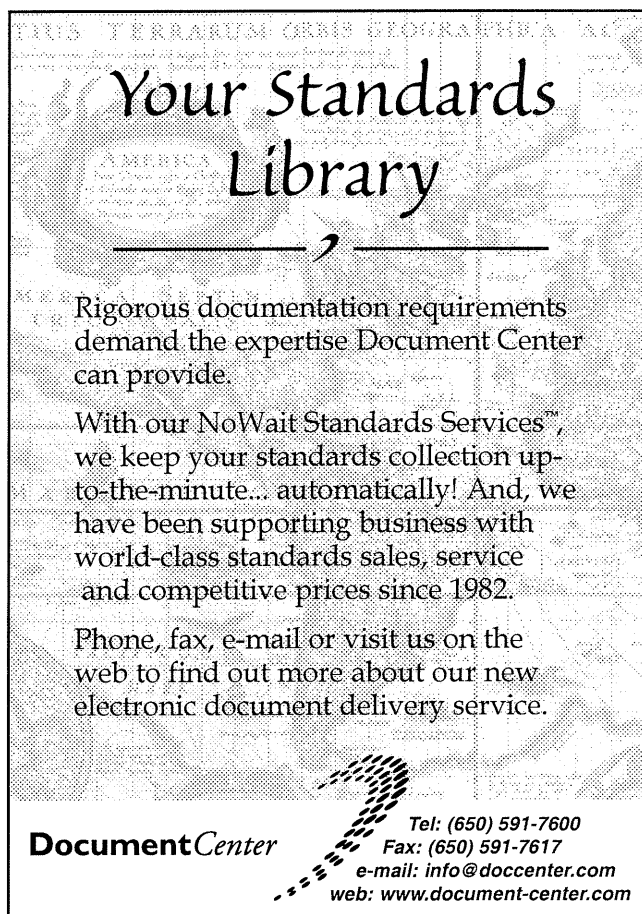
A Message to our Members.:

Please renew your membership in the Metals/Materials Division promptly. Members in the July 1 through June 30 renewal period will receive their first renewal notification this spring. If you are in the January-December renewal period and have not sent in your renewal, you were dropped from our membership list.

Renew your membership and continue to receive the benefits of Metals/Materials Division membership!

Bette Finn

SLA Metals/Materials Division Membership
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Georgia Institute of Technology
Atlanta, Georgia 30332-0900
Voicemail: (404) 894-1790
Fax: (404) 894-8190
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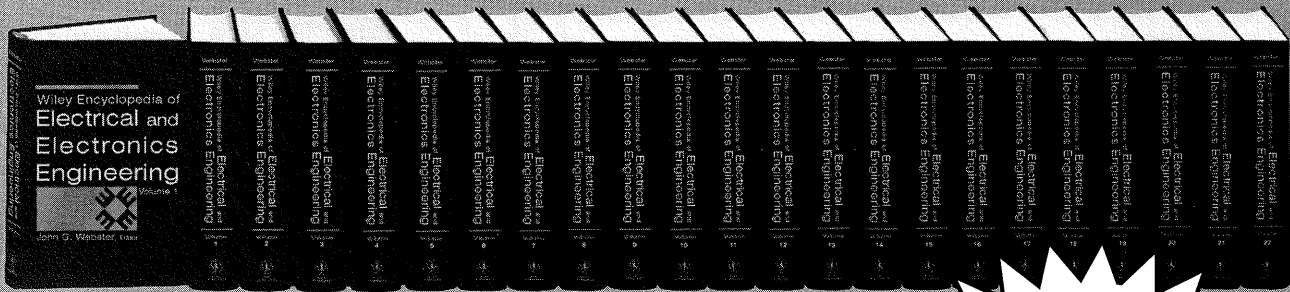
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ABOUT THE EDITOR

JOHN G. WEBSTER, Ph.D., is Professor of Electrical and Computer Engineering at the University of Wisconsin, Madison. His many honors and awards include the Association for the Advancement of Medical Instrumentation, the AAMI Foundation Laufman-Greatbatch Prize, and the University of Wisconsin Chancellor's Award for Excellence in Teaching. Dr. Webster is also the editor of the four-volume *Encyclopedia of Medical Devices and Instrumentation* and has developed 14 other publications.

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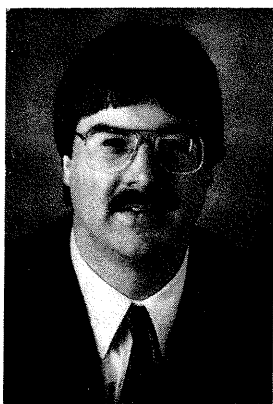


SCIENCE-TECHNOLOGY DIVISION

The objectives of the Science-Technology Division shall be: to draw together those members of the Special Libraries Association having an interest in the role of library and information science as applied to the recording, retrieval and dissemination of knowledge and information in all areas of science and technology; and to promote and improve the communication, dissemination and use of such knowledge for the benefit of libraries and their users.

FROM THE CHAIR

HOWARD STEPHEN McMINN



This is my last column and I would like to close with this thought – “Get Excited/Get Involved.” There are plenty of things to get excited about. The final plans are being made for the **75th anniversary program for the Sci-Tech Division** at the Minneapolis Conference in June. The Division’s

featured speaker is a 3-time shuttle astronaut, Kathryn D. Sullivan. More information on the division’s keynote speaker to follow. The Division is also participating in both a session and a reception with Stewart Brand, from The Long Now Foundation on Tuesday. There is a Sci-Tech Division program scheduled for almost every open session opportunity. The interesting and educational programs include such topics as data mining, the MnLink Project designed to bring together libraries through technology, career change, roundtable discussions, mentoring, and electronic document management. Check out the preliminary conference program for specific details.

Also, don’t forget the informative **Continuing Education Programs: Patent Searching I** (for new searchers), **Patent Searching II** (for more experienced searchers or in partnership with Patent Searching I to make a big leap in skills), and **All about ISO** for an introduction to the standards literature.

Not to be missed are the **Exciting Social Events** – The **Newcomer’s Brunch** and **Sci-Tech Kickoff Event** (Open to everyone to begin the

celebration of the division’s 75th Anniversary), the **75th Anniversary Luncheon**, the **Steward Brand Reception, Good Times! (the play) [dinner theater style]**, and the Division’s evening celebratory event, plus the farewell reception on Wednesday.

Get Involved

There are numerous opportunities to get involved. There are committee chairmanships and memberships opportunities open for interested members. The division’s listserv is an excellent method to network and communicate with division members. The division is always open to learning what members think and need to aid them in performing in their fast paced professional and personal lives. There are opportunities to develop new services, conference programs, and educational opportunities around the needs and desires of the members, so feel free to communicate these to the division officers, committee chairs, or through the division listserv. Another opportunity to get involved is through participation in the developing mentorship program either with a mentor or as a mentor. The strength of the division is in its membership and its volunteers who step forward to provide high quality services to its membership. Volunteering for the division can also be very rewarding in terms of personal satisfaction, networking, as well as professional and personal development. It can also be fun.

Featured Speaker - Minneapolis Conference – Kathryn D. Sullivan

The first American woman to walk in space and President and CEO of COIS, Dr. Kathryn D. Sullivan will be the featured speaker of the Science and Technology Division in Celebration on the Division's 75th Anniversary. Her talk is scheduled for Tuesday (June 8th from 9:00 - 10:15 am) followed by the 75th Anniversary Luncheon at Noon. Kathryn is the President and CEO of COSI, Ohio's Center of Science and Industry (www.cosi.org) a model interactive science and learning center for children of all ages. Her current challenges include overseeing the design and construction of a new 320,000 square foot building featuring exciting new Learning Worlds, a 7-story Giant Screen Theater, a spectacular Dome Theater and much more. Some highlights of COSI's activities include: COSI's created and produced national traveling exhibitions, DESTINATION: SPACE!, SCIENCE OF SPORTS®, MISSION TO MARS®, SQUARE WHEELS® and LIQUID VISION, which have been explored by more than 24 million visitors in more than 80 science center venues in North America. COSI's KIDSPACE® and other COSI exhibits have been replicated in more than 90 science centers around the world. Every year, COSI's Ohio Statewide Science Workshop reaches 2.1 million school children and teachers by sending science kits to every classroom - kindergarten through 12th grade. On October 31, 1998, COSI Columbus served as one of only three sites in the world to link up for a live question-and-answer session with Payload Specialist John Glenn and Commander Curt Brown while they were in orbit onboard the Space Shuttle Discovery. Students from Columbus and Toledo, asked questions, while visitors at both COSI Columbus and COSI Toledo watched the session live through videoconferencing.

Besides her responsibilities in this exciting science learning center, she has a remarkable background in the sciences. Some of the her personal highlights are as follows:

A graduate of the University of California at Santa Cruz (1973), Dr. Sullivan earned her Ph.D. in geology from Dalhousie University, Nova

Scotia (1978), specializing in deep-sea research. In 1978, Dr. Sullivan became a NASA Mission Specialist Astronaut. Over the course of the next 14 years, she flew three Shuttle missions and logged more than 500 hours in space. Her shuttle missions were:

Challenger, 1984: Lead astronaut for a series of Earth remote-sensing experiments; first American woman to walk in space;

Discovery, 1990: Spacewalk specialist for Hubble Space Telescope deployment mission, following her leading role (1985-1990) in developing and verifying more than 97 specialized tools for Hubble on-orbit repair and servicing;

Atlantis, 1992: Payload Commander for ATLAS-1 earth and atmospheric sciences Spacelab mission; leader of four-person scientific crew through all aspects of training, mission preparation, and flight operations.

Among Dr. Sullivan's other duties while at NASA were service as Mission Manager and in-flight scientist aboard the high-altitude WB-57F aircraft; Chief of the Astronaut Office's Mission Development Branch (1990-91); and appointee to the President's National Commission on Space.

In 1992, Dr. Sullivan assumed the post of Chief Scientist, National Oceanic and Atmospheric Administration, having been nominated by both the Bush and Clinton administrations. At NOAA, Dr. Sullivan was responsible for the planning, budget, and execution of approximately \$500 million of environmental research and technology programs, including fisheries biology and ecology; climate and global change; satellite remote sensing; and coastal oceanography and ecology. She remained at NOAA through 1996, when she took up her current position at COSI.

Among the honors and awards Dr. Sullivan has received are:

NASA Space Flight Medal (1984, 1991, 1992)

Dr. Sullivan is an Adjunct Professor of Geological Sciences and an Adjunct Professor at the College of Education at The Ohio State University. She is a Fellow of the American Institute of Aeronautics and Astronautics and a member of the Association of Space Explorers, The Oceanography Society, the American Geophysical Union, the Geological Society of America, The Explorer's Club (Lowell Thomas Medalist), and the Society of Woman Geographers (Gold Medalist).



ELECTION RESULTS NOMINATING COMMITTEE

Eleanor MacLean, Chair

The Nominating Committee is pleased to announce the new Division Officers for 1999/2000. Division Chair-Elect is **MARSHA SAYLOR**, Information Specialist at Michelin Americas Research & Development Corp. Greenville, SC. The new Division Secretary is **JUDITH SIESS** of Information Bridges International in Richmond Heights, Ohio. Both take office in Minneapolis. **CONTRATULATIONS TO BOTH WINNERS!**

SCI-TECH AWARDS

The Science-Technology Division is pleased to announce its 1999 Award Winners.

The S. Kirk Cabeen Student Travel Stipend is awarded to **David O. Landry**, a Graduate

Student at Louisiana State University's School of Library and Information Science. His essay appears later in this issue. The 1999 International Librarian Award winner is **Christina Louis**, Assistant Librarian, Indian Institute of Bagalore, India. She will be attending the Minneapolis Conference with last year's winner, **Ms. Luis Herrera**, Bibl. Central - Universidad Nacional del Sur from Bahia Blanca in Argentina. Congratulations to these award winners and look for them at this years Conference in Minneapolis.

CONTRATULATIONS--OUTSTANDING DIVISION REPRESENTATIVES

I want to take a minute to congratulate/highlight some of the division members who are filling important roles within the Association. First congratulations to Sci-Tech Member and Division Cabinet Chair-Elect go to **Doris Helfer**, Science Librarian at California State University, Northridge. **Lynn Tinsley**, Head of the Science Library at Carnegie Mellon University joins fellow Sci-Tech Members **Monica Ertel** (Korn-Ferry International), **Cynthia Hill** (Sun Microsystems, Inc.), **Sandy Moltz** (GE Aircraft Engines Technical Information Center) and **Wilda Newman** (Johns Hopkins University, Applied Physics Laboratory) on the Association's Board of Directors. Congratulations also go to **Ellen N Mimnaugh**, product manager for online services at Chemical Abstracts Service, Sci-Tech Division member and current Chair of the Chemistry Division for receiving the Association's Hall of Fame Award for her extended years of service to the Association. The listing of the 1999 Fellows of the Special Libraries Association includes Sci-Tech Division member, **Gloria Zamora** (Sandia National Laboratories). Congratulations to all of these division representatives.

Information Services Panel Survey

Last summer more than 1,800 SLA members participated in the first series of surveys via the WWW, dubbed the Information Services

Panel. This series of surveys is designed to gather statistics on such issues as Internet usage, roles and responsibilities, usage of products and services, financial and operating benchmark data, and technology usage and trends. The second survey will be held this upcoming May, and if you would like to review the results from the initial survey, they will be available on the WWW at <http://www.sla.org/research/isp98.html>.

Membership Database Information

The association is implementing a new membership database system which will be integrated to the associations WWW site allowing association members access to an online membership directory, full-text issues of Information Outlook, and other restricted materials. Look for more information in upcoming issues of Information Outlook and new membership cards with members PIN numbers for access to these expanded services.

Diversity Leadership Development Program/Award

The Diversity Leadership Development Program spearheaded by the SLA Affirmative Action Committee with generous funding from EBSCO is seeking both mentors and applicants for this important program. The aim of the program is to nurture Association leaders by focusing on the diverse groups within the Associations membership. The Award (deadline for application is October 15th, 1999) for up to five successful recipients includes \$1,000 to encourage continuing education or to assist with conference expenses and complimentary registration to the 2000 Annual Conference in Philadelphia. The award winners will also be teamed with experienced mentors who will provide guidance in understanding the mechanics of the Association and the roles of Association leaders. For more information about either the Award or becoming a mentor, please contact Christine Kennedy, Director of Membership Development at SLA Headquarters.

SCI-TECH MEMBERS TO THANK

I want to take this opportunity to publicly thank all of the committee chairs and their members for their hard work this past year. I know that many of them are working harder than ever at this time of year and will continue to work right up to and after the annual conference to ensure that the division's conference and other efforts strengthen the division which is a membership driven organization. Their time and dedication are the strengths of the organization. Their efforts aid all of the membership throughout the association and ultimately strengthen and enhance the profession. I always worry about thanking someone or highlighting a certain individual and leaving someone else out. The well known comedy sketch where the person wins an award and thanks everyone including the family dog or delivery boy, but forgets his partner, wife, or other truly deserving individual springs to mind. I hope all of the division officers, chairs and memberships know how much I appreciate their efforts. I would also like to thank the membership for the opportunity to serve as Chair of the Division. I have found the opportunity personally rewarding and satisfying. I would encourage all of the membership to get involved as the rewards and personal satisfaction are worth all of the time and effort. Plus you get to work with a great group of highly dedicated and fun individuals. I would also like to thank all of the division's sponsors, their support helps the division put on the types of programs that directly benefit all of the membership. I would like to single out several of individuals to give a public note of thanks.

The first is **Ellis Mount**, his value to the Sci-Tech Division will be demonstrated shortly as we continue to look for a leader to fill his shoes as editor of *Sci-Tech News*. Besides this important work, his knowledge and dedication towards the division will be missed. I would also like to thank **James Manasco**, Chair of the Student Relations Committee for his work on mentorship, the Newcomers Brunch program, and other activities for the Minneapolis Conference and beyond. I would also like the membership to note the outstanding fundraising efforts of the incoming

Chair, **Wei Wei**. My greatest thanks go to our program planner for the Minneapolis Conference, **Pamela L. Enrici** from the University of Minnesota-Duluth. She has put together a fabulous program and has devoted countless hours of work in behalf of the division. She has my utmost respect and admiration as well as thanks. Again, I would like to emphasize that all of the committee members, committee chairs, division officers have earned a big thanks from myself and the entire membership. Thank you-- keep up the good work!.

**SCIENCE-TECHNOLOGY DIVISION
WELCOMES ITS NEW MEMBERS**

January - March 1999

Nathalie Thirlwall

Chair, 1998-1999 Membership Committee

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3026 Shapiro Science Library
Ann Arbor MI 48109-1185

Dorothy Brook
Hewlett Packard Laboratories
Information Services
Filton Rd Stoke Gifford
Briston United Kingdom

Linda V Causseaux
3310 Lord Murphy Tr
Tallahassee FL 32308

Amy Chapman
84 The Fenway #32
Boston MA 02115

Ann C Eastham
Univ of Minnesota
Science & Engineering Library
108 Walter Library
Minneapolis MN 55455

Theresa M Frady
LEXIS-NEXIS

3020 N Myers St
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Martin Goldberg
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Brooklyn NY 11235

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SCI-TECH CONFERENCE SCHEDULE

Joe Kraus

I have posted the following "Preliminary" Sci-Tech Schedule on the
Sci-Tech Website. Go to: <http://www.du.edu/~jokraus/sla-st/schedule99.html>
I extracted this information from the /slow SLA website.

Saturday, Jun 5, 1999, 9:00 AM to 4:00 PM
Patent Searching, Part I

The course is designed to provide an overview of the patenting process, sources of patent information and its retrieval, including fundamental searching techniques. The basics of domestic and foreign patent law will be covered.

Saturday, Jun 5, 1999, 4:00 PM to 6:00 PM
Board Meeting, Pt. I
Meeting of the 1998/99 Board.

Sunday, Jun 6, 1999, 9:00 AM to 4:00 PM
Patent Searching: Part II

This course includes a review of previous lecture material, and that is followed by practical applications using a case study format. Cases will have been mailed to participants prior to the course. The previous course (Patent Searching--Part I) is a prerequisite to this course.

Sunday, Jun 6, 1999, 10:30 AM to 12:00 PM
Newcomer's Brunch and Sci-Tech Kickoff Event.
All students and newcomers to the Science-Technology Division as well as current members are cordially invited to this brunch. Meet officers of the Division, learn tips on "doing the

conference" and begin networking. Make this your kick-off session.

Sunday, Jun 6, 1999, 4:00 PM to 6:00 PM

Sci-Tech Board Meeting, Pt. II

Meeting of the 1998/99 board, including committee chairs and liaisons..Newly elected officers and committee chairs are encouraged to attend. All division members are welcome.

Monday, Jun 7, 1999, 7:30 AM to 8:45 AM

Science Technology Division Business Meeting & Breakfast.

Network with fellow Science-Technology members, share in the accomplishments of the division, recognize our division award winners, and thank our division sponsors.. Cost of this event is \$20.00

Monday, Jun 7, 1999, 10:30 AM to 11:45 AM

Overview of Data Mining and Its Importance to Librarians

Data mining represents the confluence of a number of fields of computing, including database systems, artificial intelligence (knowledge discovery in databases or KDD), and information retrieval.

Monday, Jun 7, 1999, 1:30 PM to 2:45 PM

One for All, All for One, Virtually

Imagine being able to simultaneously send one search through your library's catalog, through nearly all the other library catalogs in the state, and through selected databases too. In Minnesota, this dream is becoming reality as MnLINK co

Monday, Jun 7, 1999, 3:00 PM to 4:15 PM

Myth, Market, and Metamorphosis: Career

Change.To avoid being held captive by careers which hold little or no satisfaction, librarians as well as other professionals occasionally need to step back from their work not only to reassess it, but to reflect on how they feel about it.

Monday, Jun 7, 1999, 4:30 PM to 6:00 PM

Is a Bibliographic Database Necessary at the Core?

In constructing an environment for immediate full text retrieval, is a bibliographic layer necessary? If

so, to what extent and to what depth must the layer exist?

Tuesday, Jun 8, 1999, 7:30 AM to 8:45 AM

Academic Sci-Tech Librarians

Roundtable & Breakfast

Informal and lively discussion of issues facing academic and technology librarians. Seating is limited. Contact Nancy Wilmes

(n.wilmes@wayne.edu) to make reservations and suggest topics.

Tuesday, Jun 8, 1999, 9:00 AM to 10:15 AM

Science-Technology Division 75th Anniversary speaker, Kathryn Sullivan, first woman astronaut and noted educator. Everyone is welcome in joining this session of the Sci-Tech Division's 75th Anniversary program. We are proud to have her as our anniversary speaker.

Tuesday, Jun 8, 1999, 12:00 PM to 1:15 PM

Science Technology Division 75th Anniversary Luncheon. Science-Technology Division members past and present are invited to our 75th anniversary luncheon. The program will include highlights of our history and will honor outstanding members - past and present. Cost of this event is \$33.00.

Tuesday, Jun 8, 1999, 1:30 PM to 1:45 PM

SLA:Successful Mentoring Experiences:

Learning From Each Other.Mentoring young professionals-in-training can be one of the most rewarding aspects of reflective practice. Student proteges, in turn, provide both a fresh view of information systems and services and an enthusiasm for learning.

Tuesday, Jun 8, 1999, 3:00 PM to 4:15 PM

Time and Bits

We have entered a digital dark age. Digital media rot faster than newsprint, digital formats have the lifespan of field mice (six years), and all information is becoming digital. What libraries are gaining in scope (via the Web etc.) they are losing in continuity.

Tuesday, Jun 8, 1999, 4:30 PM to 6:00 PM

Stewart Brand Reception

The Information Futurists Caucus invites you to the Stewart Brand reception.

Tuesday, Jun 8, 1999, 5:45 PM to 11:00 PM

Good Times!

Everyone is invited to join with the Sci-Tech Division in yet another 75th anniversary activity! Come and join us for Good Times! (Good Times! is a play that debuted in the late 1920's so you can imagine yourself a librarian 70+ years ago)

Wednesday, Jun 9, 1999, 10:30 AM to 11:45 AM

Babbage Institute

Bruce Breumer will take you on a "tour" of the Charles Babbage Institute of Computer History. The Institute was established in 1980 at the University of Minnesota and is dedicated to promoting the history of computing and its impact on society.

Wednesday, Jun 9, 1999, 11:30 AM to 12:45 PM

Electronic Document Management

Avoiding Corporate Alzheimer's. This presentation provides a definition of current document management technology and a context in which to assess its strengths and weaknesses. The session's objectives are to: 1) explore developments in document management software.

Wednesday, Jun 9, 1999, 2:30 PM to 4:00 PM

Science-Technology Division Farewell Reception.

Sci-Tech members, you're done - except for the SLA Awards Banquet and Ceremony. Come and join us for our last bit of our 75th anniversary celebrating and networking.

Thursday, Jun 10, 1999, 9:00 AM to 4:00 P

All About ISO: An Introduction to the International Organization for Standardization

This course is designed for the librarian who has occasion to work with standards on the job.

LA-ST web archives & commands can be found at: <<http://www.library.nwu.edu/cgi-bin/lwgate/SLA-ST>>

AWARD WINNER

S. KIRK CABEEN STUDENT

TRAVEL STIPEND

This year the award was won by David O. Landry, a graduate student at the Louisiana State University School of Library and Information Science. His winning essay follows.

**SPECIAL LIBRARIANS AS
KNOWLEDGE LEADERS**

By David O. Landry

As the world anxiously approaches the dawn of a new millennium, the ranks of special librarians find themselves prematurely immersed in the frenetic pace and surrounded by the technological innovations of the twenty-first century. For special librarians, the future is already well defined, and our new roles as knowledge workers within organizations are rapidly taking shape. The phenomenon of knowledge management is fast becoming a corporate reality, and special librarians are poised to assume a position of leadership in implementing this latest management strategy. At the same time, those special librarians who fail to become proactive players in knowledge-based organizations run the very real prospect of becoming marginalized.

Special librarians have long thought of themselves as information workers, providing value-added services to their clientele. But as advances in computer and telecommunications technologies rapidly facilitate desktop access to information, special librarians have had to adjust their roles and develop new competencies. The acceptance of knowledge management as a viable organizational model has opened the door to a new world of exciting possibilities for our profession.

The use of knowledge within an organization rests primarily on the attainment of two objectives: effective management of information resources, and the establishment of a learning environment. An integral component to

achieving both of these objectives is an intimate understanding of the information flows within an organization. Obviously, as the traditional keepers and disseminators of information within organizations, special librarians are in a unique position to make substantial contributions to the successful implementation of knowledge management projects.

In addition to the traditional tasks of identifying and acquiring external sources of information, special librarians are rapidly assuming the additional responsibility of organizing internal sources of information. Special librarians are often the best positioned to monitor the information products and needs of different departments and, as such, deserve a central role in the development of processes and policies that harness an organization's knowledge base. Furthermore, the acquisition of new competencies among many special librarians, such as intranet and extranet development, will only magnify their importance in the new knowledge economy.

In short, the special librarian is driven by a desire to provide access to information. We fundamentally believe that information sharing is a beneficial and noble act. These deep-rooted values serve to qualify us to assume significant roles in the management of organizational knowledge. In fact, the advent of knowledge management can be viewed as a recognition by senior management of the value of sharing internal information, something of which special librarians have long been aware.

Bibliography

1. Broadbent, Marianne. "The Phenomenon of Knowledge Management: What Does It Mean to the Information Profession?" *Information Outlook*. May, 1998. pp. 23-36

2. Chase, Rory L. "Knowledge Navigators" *Information Outlook*. September, 1998. pp. 17-25.

TO ALL SCIENCE AND TECHNOLOGY DIVISION's SPONSORS THANK YOU !

The following is an alphabetical list of all 1999 conference sponsors of the Science and Technology Division. Please be sure to visit these sponsors during the conference at their booth and thank them for supporting the Science and Technology Division's Programs at the 1999 Annual Conference in Minneapolis. The list below also indicates the programs supported by the sponsors and the contact information for each company.

1. Academic Press "Patents",
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Booth Number:1340,1342
Kiki Forsythe
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2. ASME "75th Night Out Reception"
Booth Number:1207,1209
Craig Backhus
Special Sales Coordinator
Email:BackhusC@asme.org
Phone:800-843-2763 x2241

3. Baker & Taylor "Negotiating
Vendor Contracts"
Booth Number:943
Dana Alessi
Director, Sales & Marketing,
Academic Libraries
Tel: (704) 329-9052
Email: alessid@baker-taylor.e-mail.com

4. CAS "Academic Sci-Tech Roundtable
Breakfast Meeting" Booth Number:1515
Ken Kastely
Marketing Exhibit Specialist
Tel: (614) 447-3864
Email: kkastely@cas.org

5. CISTI "Newcomer's Brunch"

Booth Number:1304,1306

Elizabeth Katz

Communications Manager

Tel: (613) 993-3854

Email: Elizabeth.Katz@nrc.ca

6. CRC "Academic Sci-Tech Roundtable"

Booth Number:1715,1717

Craig Cuddeback

President of Electronic Publishing

Tel: (800) 272-7737, ext 2564

7. Dialog "Farewell Reception/75th Anniversary "Night Out"

Booth Number:909

Linda Botvinik

(working for Susan Prather,
Acting Dir. of Corp. Communications)

Email: Linda_Botvinik@dialog.com

8. Ebsco "75th anniversary-

Main speaker & Copyright program"

Booth Number:1213,1214,1216

Jim Smith

Special Library Marketing Manager

Tel: (205) 991-1345

Email: jlsmith@ebsco.com

9. Elsevier "Data Mining"

Booth Number:1221

John Tagler

Director, Corp. Communications

Tel: (212) 633-3780

Email: j.tagler@elsevier.com

10. Gale "Futurist"

Booth Number:1021

Beth Dempsey

Corp. Communications

Email: Beth.Dempsey@Gale.com

11. Gordon & Breach "Computer Science Roundtable"

Booth Number:Not indicated

Marisa Westcott

Corp. Communications Manager

Tel: (973)643-7676

Email: marisa.westcott@gbhap.com

12. IHS "75th Anniversary Luncheon"

Booth Number:1801,1803

Patrick Romich, President

IHS Engineering

Tel: (303) 397-2743

13. ISI "Is a Bibliographic Database Necessary at the Core..."

Booth Number:1035

Deborah Brown (Acting)

Associate Manager of Corp. Communications

Tel: (215)386-0100 ext. 1573

14. Niles "Newcomer's Brunch and Night Out"

Booth Number:1721

Bill Barnes, Vice President, Marketing

Tel: (510)559-8592

Email: bill@niles.com

15. OCLC "Mnlink"

Booth Number:611

Phil Schieber

Director, Communications Division

Phone: 614-764-6144

Fax: 614-764-0740

e-mail: phil_schieber@OCLC.org

16. SilverPlatter "Myth, Market, and Metamorphosis..." Booth Number 1401

Pat Samson, Public Relations Manager

Tel: (617)769-2599 ext. 189

Email: pats@silverplatter.com

17. Wiley "Dead Technology"

Booth Number:1440,1441,1442,1443

John Chambers

Tel: (212) 850-6291

18. YBP "Babbage Institute"

Booth Number:1315,1317

Mark F. Kendall

Vice President, Sales and Customer Service

Tel: (800) 258-3774 ext. 3220

Email: mkendall@ybp.com

The Respected Reference on Table of Isotopes is Now Available in Paperback!

From the Reviews of the Cloth Edition:

"... offers greater coverage of nuclear structure properties and general isotopic information."
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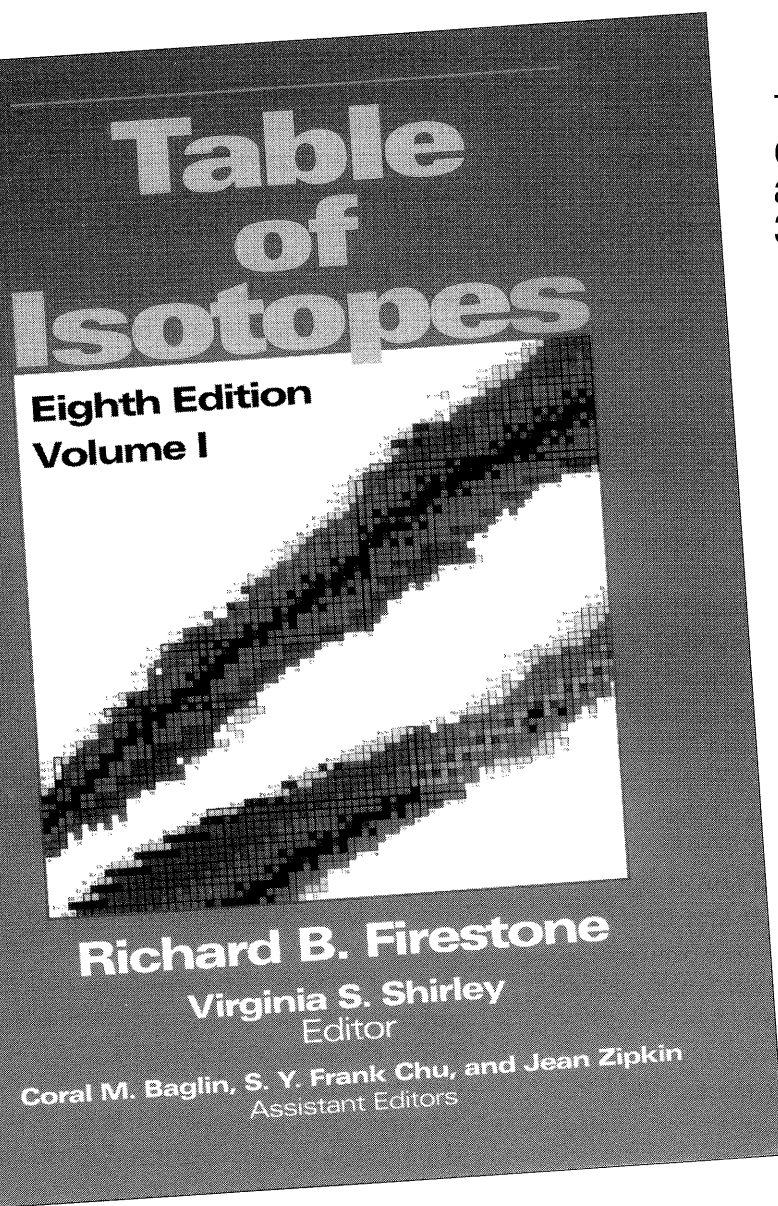
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—*Radiation Protection Dosimetry*

This 2-volume work contains nuclear structure and decay data for over 3,100 isotopes and isomers.

Features:

- References data from thousands of pages of figures and tables
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Eighth Edition: 2-Volume Set
(does not include CD-ROM)
0-471-33056-6
December 1998
3,168 pp. • Paperback
\$225.00 US / \$337.50 CAN



Visit the Table of Isotopes website at: www.wiley.com/toi
Available through your vendor



ENGINEERING DIVISION

The objectives of the Engineering Division are to provide an association for those having an interest in library and information science as they apply to engineering and the physical sciences and to promote the use of materials and knowledge for the benefit of libraries and other educational organizations.

FROM THE CHAIR



It's hard to believe that my year as Chair is almost over. I would like to acknowledge the work done by all members and particularly the leadership contributions made by all Board members over the last year. The hard work that the Board has contributed will be

highlighted as you read the

strategic plan from the Committee Chair Patricia Parker. I have enjoyed serving as Chair of the Division and I look forward to seeing you at the Annual Conference in Minneapolis.

"Knowledge Leaders for the New Millennium: Creators of the Information Future" is the theme for the conference this year. SLA intends to celebrate the information professionals as knowledge leaders of the future. To help guide you in expanding your skills, the conference committee and division program planners have developed four great tracks: 1.) Leadership; 2.) Evolving Roles; 3.) Knowledge Management; and, 4.) Practitioner's Toolkit. We have one special session that may interest you: **From the CEO's Point of View.** Lisa Guedea Carreno, Corporate Librarian and Duncan Highsmith, CEO and President, will be our speakers. They will focus on the evolving role of their library and how it has been developed as both a key tactical and strategic resource. They will also discuss how information skills are used throughout the organization to assist various departments and why reliable, up-to-date information constitute the heart of any company. Other topics to be covered are: **Assessing and Managing International Standards and Information, Finding Your Competitors, Electronic Journals, Mentoring One on One, and**

W. KELLY YUILLE

The CE Mark: What is it and how do we get it?

For a complete up-to-date list of the Division's programs and activities please go to our web page at <http://www.sla.org/division/deng/engdiv.html>. Look under the section "what's new".

Although you will be busy attending the conference sessions, don't forget lunch. The Annual Business Luncheon meeting is scheduled for Tuesday June 8 from 12:00 - 1:30 p.m. All members and guests are invited to attend. This is an opportunity to network and find out what your officers have been doing. It is also an opportunity to meet your new officers, as we step down and become part of the Division's history.

Minneapolis is a beautiful mid-western city. We encourage you to schedule time to visit the museums, theaters, historical sites, and the largest Mall in America. The Engineering Division is cosponsoring two tours. The first tour will enable you to visit the old and new with an excursion on the Minnesota Flyer. You will travel by bus to Stillwater, Minnesota, and board this classic art-deco-train to take you for a ride, while enjoying lunch and a stop at the Logging and Railroad Museum. Another tour is a trip to the 3M Company and a tour of their Information Services in St. Paul. A picnic lunch at Battle Creek Park will be a delightful ending to this tour. We must have your name and information on the sign-up sheet if you want to go. Stop by the SLA booth if you did not preregister for tours.

There will be a variety of vendors available for you at this year's conference. Take a few minutes to visit the exhibitors hall and show your support for the sponsors of our programs: John Wiley & Sons, MicroPatent LLC, ASME, ASCE, IEEE, Inspec, Linda Hall Library, Majors Scientific Books, powerize.com, CRC Press Inc., ILI InfoDisk, Inc., Information Handling Services, and Elsevier Science Inc.

Again, I look forward to personally greeting all of you at our conference. If you plan not to attend, look for a full report in the Fall issue of this Bulletin.

STANDARDS INFORMATION AT THE ANNUAL CONFERENCE

Karen Kreizman

Engineering Division, Standards Roundtable Chair

Interested in learning more about standards? The SLA Engineering Division is sponsoring two programs related to standards information.

Tuesday, June 8th 1:30 pm - 2:45 pm

"Standards Roundtable"

The Engineering Division's annual Standards Roundtable. After a few announcements, there will be presentations of new and upcoming products from standards information providers. Vendors presenting include: ASTM, BSI, Document Center, ILI Infodisk, NIST, and more. This session will conclude with an open forum where participants will be asked to share ideas, web sites, opinions and concerns, relating to standards information.

Wednesday, June 9th 2:30 pm - 4:00 pm

"Assessing and Managing International Standards Information"

Staying current with international standards is becoming increasingly important to organizations for both accreditation purposes and entrance into the global marketplace. Three speakers will address important topics affecting special libraries today.

Sourcing Foreign Standards - Karen Kreizman, ACTS Testing Labs, Inc.

Copyright and Standards - Peregrine Rowse, ILI Infodisk, Inc.

The Importance of Document Control - Chris Dobson, F1 Services, Inc.

Hope to see you at these interesting sessions!

NOMINATING COMMITTEE REPORT

A great big thank you to the brave members who placed their names in nomination. Appearing on the ballot were:

Chair-Elect:

Janice Anderson, Access Information Association
Marilyn Redmond, Sematech Library

Secretary:

Janifer T. Holt, Dartmouth College, Feldberg Library

Carol H. Reese, ASCE

Treasurer:

Theresa Fogle, American Ceramics Society
Information Center

Don Welch, Bell Helicopter Tetron Engineering Library

A total of 695 ballots were mailed with a return of 149 ballots. The elected officers are:

Chair-Elect: MARILYN REDMOND

Secretary: CAROL H. REESE

Treasurer: DON WELCH

These three, plus **Darla Wagner**, as Chair, and **Sara Davis**, as Director, will begin their duties at the Board meeting on June 9, 1999 in Minneapolis.

Report of the Nominating Committee

Betty Lou Hicks, Chair

Sara Davis

Mary Ellen McMurtrie

**DO YOU HAVE A LIMITED BUDGET?
INTERESTED IN SAVING MONEY WHEN
YOU PURCHASE STANDARDS????
READ MORE!**

Under the auspices of the SLA Engineering Division, I am interested in forming an SLA Engineering Libraries Consortium. The purpose of the Consortium would be to leverage our combined volume of standards purchasing to receive a sizeable discount from a standards document delivery vendor.

Consortia arrangements are becoming more and more popular in 1990s. Many libraries are entering into consortia arrangements to obtain discounts for online databases, web subscriptions and document delivery services. Vendors ARE willing to work with disparate libraries and are willing to provide discounts, so they can obtain the business. Many of us work in small libraries and are not part of a larger company or network and therefore, cannot generate sufficient volume for vendors to offer a discount. By joining together, we create the needed volume to realize cost savings. Let's face it, the competition is very fierce in the standards document delivery market, and we should use this factor to our advantage. Vendors are willing to work with libraries to meet their needs, and, EVERYTHING is negotiable.

I would like to determine if there is any interest by libraries (corporate, special, academic, etc.) in the formation of such a consortia. If there is sufficient interest, the Consortium would develop a request-for-proposal (RFP) and invite standards document delivery vendors to offer their best deal. The RFP would include sections on services, turnaround time, invoicing, etc. One vendor would be selected. Libraries would agree to purchase standards from the one vendor (unless the standard is not available) and in turn, the libraries will receive a substantial discount per each standard purchased.

If you are interested in the idea of an SLA Engineering Libraries Consortium or would like to learn more, please contact me by May 1, 1999.

Karen Kreizman

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NEW ENGINEERING DIVISION MEMBERS

Cheryl Hansen, Chair of the Membership Committee

The Engineering Division welcomes the following new members::

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AWARDS COMMITTEE

Mary-Frances Panettiere, Chair

The Awards Committee will have received all nominations for the 1999 Ei/SLA Engineering Librarian of the Year Award by April 30. The winner will be honored at the Engineering Division's Business Lunch in Minneapolis on June 8 with a plaque and a check for \$1000.00. The Awards Committee has also considered options for honoring Estelle Davis, a former Chair of the Engineering Division, who passed away about a year ago.

ENGINEERING DIVISION EDITOR

A volunteer has appeared to serve the Engineering Division as its division editor for *Sci-Tech News* for the year 1999/2000. She is:

E. Ann Hemmerich
Raytheon Engineers & Constructors
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Phone: (215) 422-4849; Fax: (215) 422-4648
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OUTLOOK FOR THE ASSOCIATION YEAR 2000 ANNUAL CONFERENCE DARLA WAGNER Engineering Division Chair-Elect

The theme will be "Independence to Interdependence: The Next Phase in the Information Revolution". We have experienced the information revolution changes in this past century as the driving force to harness said information and redirect to users via a cost effective price. The Dawn of the next Millenium brings the knowledge managers of the future the opportunities to further shape the information delivery of the next century. With this in mind, I am calling for ideas, suggestions, courses, events that you would like to see at this annual conference. Some ideas are: the Standards Roundtable, possibly Value Added

Information from the Top Down (a session with CEO, VP, Directors and their Librarians or Information Managers), etc.

WE STILL NEED COMMITTEE

VOLUNTEERS FOR 1999/2000: Volunteers are always needed (more than one person is always helpful) for: Professional Development, Membership, Public Relations, Government Relations, Networking, Strategic Planning, Employment, Affirmative Action.

DO NOT USE THE INFORMATION CONTAINED ON THE SPECIAL LIBRARIES ENGINEERING DIVISION WEBSITE (I left IEEE in mid-Sept. 1998), **CONTACT ME AT:** Darla L. Wagner, Raytheon Engineers & Constructors, Inc. Library 01P1, 510 Carnegie Center, Princeton, NJ 08540 **PHONE:**609-720 2279. **FAX:** 609-720-2343. **EMAIL:** darla_wagner@ccgate.neci.com
THANKS

SLAPUBLISHING

1997

State-of-the-Art

Institute

Knowledge Management: A New Competitive Asset

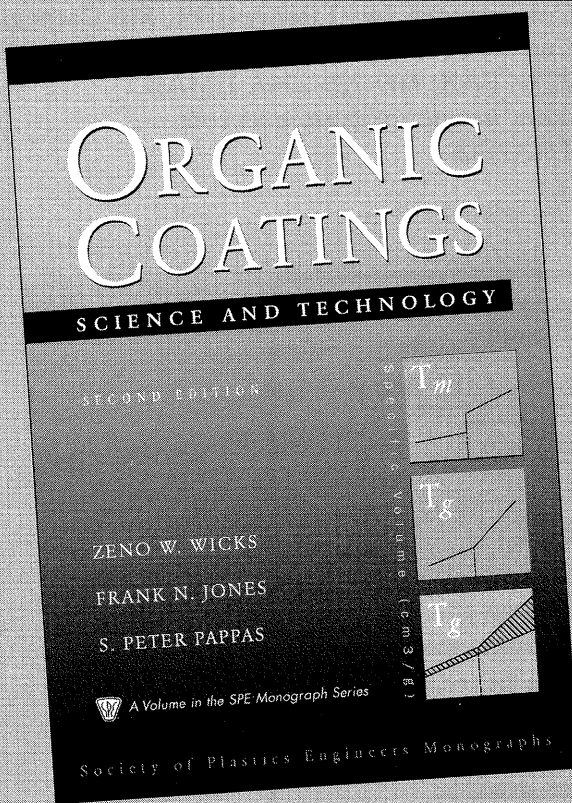
This compendium explores the essential elements of knowledge management and how it can enhance corporate productivity and competitiveness. Topics include the concept of knowledge management, the tools and techniques you can use to improve your organization's management of knowledge assets, real world examples, and key issues that should be considered in implementing a knowledge management program.

ISBN 0-87111-480-1 ■ 230 pages
\$40.25 ■ SLA members \$32.00

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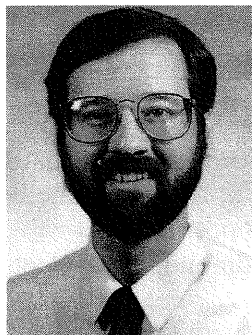
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AEROSPACE SECTION OF THE ENGINEERING DIVISION

The Aerospace Section of the Engineering Division encourages communication and cooperation among information professionals concerned with aerospace, aeronautical and related technologies. In addition, it fosters dialog with entities, such as NASA, the AIAA and other important sources of technical data and bibliographic services.

FROM THE CHAIR

DONALD WELCH



Are you registered for the conference yet? Are ya? Well (if you can), you better do it. We're going to have fun in Minneapolis; I'll guarantee it ... at least I will for me!!!

The aviation-related sights are numerous in Minneapolis/St. Paul. About a year ago, I searched the

Internet for sights relating to aviation - be they museums or companies or whatever - and there were more than I guessed. Of course, there were the places one would think were there, like the Minnesota Department of Transportation, the Civil Air Patrol (which actually had a lot of units), and the Aeronautical Engineering Department at the University of Minnesota (which has been involved in training industry designers since 1929).

Aviation also was represented by Northwest Airlines, one of the oldest airlines still operating in the US, and lots of museums - some of which were the Planes of Fame (East) Museum (in Eden Prairie), the Confederate Air Force (Southern Minnesota) Museum St. Paul, the Minnesota Air Guard Museum in MSP (Minneapolis/St. Paul), the American Wings Air Museum in St. Paul, and the Polar Aviation Museum. So, crank that ignition, prime the prop, and get into gear - there's lots to see in MSP.

And, speaking of things to see, have you looked yet at the SLA's webpage and the preliminary conference program there? In March, I know there were more than just a few folks who were dismayed at not having a hardcopy of the preliminary program in their hands ...and I was one of them for awhile. I even got a little riled when I

couldn't access anything that I asked (with my mouse) to see. Seems, though, that things are working better now since Maurice Harris cracked the whip.

The delay obviously put a crimp in the plans of some to register early for conference ... me included. I have gotten registered though, and it was before the extension I heard was given to us, too. I got an e-mail on April 1 (from someone in Texas with SLA) that the deadline for earlybird registration was extended to May 1. That seemed fair of the SLA ... assuming it was true.

We still have a business breakfast and a program on "Merger Mania" to keep us busy in Minneapolis, but the program that Forecast International was sponsoring for us has hit a roadblock ... a roadblock that's forced cancellation. The program, which in the preliminary program is called "Moving Towards the Electronic Library", was to have been given by Tim Edwards of the National Ground Intelligence Center. Unfortunately, he has had to cancel the engagement. Forecast International looked for someone to replace him, Monty Nebinger said, but none could be found early in April. Without that program at 10:30 a.m. on Monday, we'll have to be content in settling for the exhibits, the sights, the shops, and the sounds of Minneapolis.

Don't forget the business breakfast meeting and "Merger Mania", though. Each also is on Monday, June 7, with the breakfast at 7:30 a.m. And, the breakfast is a ticketed event; that means that you must buy a ticket (for \$5.00) when you register. I'd like to order all of you to be there, but I don't think that would work. Instead, I'll ask all of you who are going to be in Minneapolis that day to be there. Wasn't that nice? I'd like to thank the AIAA here for sponsoring the breakfast for us. It

has been a bulwark of support over the years, and it's proving to be the same again. Thanks, AIAA.

We are being invited, too, to a reception on Sunday, June 6, welcoming all of us to the Engineering Division. Kelly Yuille, the chair of Engineering, has been working on the reception ever since she became chair. I think it's an inspired idea!!! As I recall, the reception starts at 7 p.m. and ends at 9 p.m. Hope I see you there!

Now, as I said earlier, the section is sponsoring "Merger Mania". It's on Monday, June 7 at 3 p.m. The speakers are Corinne Campbell from Boeing, Ferol Foos from Albemarle Corp., and Kathy Roman of Lucent Technologies. They seem to be excited about the topic, judging from some of the things they've said and / or sent to me. I'm looking forward to the program ...except that I'm the moderator. That is not something I necessarily anticipate eagerly, but we have speakers that are good, so I'll let them do the talking.

Here, I need to trumpet the fact that Susan Clifford and the rest of the Nominations Committee - Sherry Siler and Bonnie Rizzuto - grouped, and then regrouped with a purpose, this year and found a nominee for chair-elect/chair that's perfect. Patience persistence paid handsomely, though. You could say even that they, as the Mounties of Canada have done for years, "got their man", even though the nominee is Susan Lamanna, a woman. She is, however, from Canada - Transport Canada. Susan has been a member of SLA since early in the 1990s. She first attended a conference in San Antonio. Since then she's been to four straight conferences, and has participated in the business of the section all of that time. Currently a policy analysis advisor to Transport Canada, she's on loan, for the second time, to the Analyst Department. On October 1, she will return to library duties and head of the technical information center.

She started at Transport Canada 22 years ago after working at a Staff College of the Department of National Defense and also at a

medical library. The first 10 years she was with Transport Canada, she worked in Toronto at a regional TC library. Twelve years ago she moved to Ottawa as the head of the technical information center. She is looking forward to being really active of growth both for the section and herself. Speaking of offices and officers, I suppose I should add here that I have been elected treasurer of the Engineering Division. I'm happy that I can stay active in the Association. I know, however, that I'm not going far from Aerospace ... and that's the best part of it. Also elected to new positions in Engineering were Marilyn Redmond, chair-elect, and Carol Reese, secretary

I've been in contact already with Gad Engler, the current treasurer, and we've talked briefly about the differences or possible differences of being a treasurer for Engineering ... as opposed to Aerospace, which is where I previously served as treasure four years - from 1992-1996. It will be different in some ways, but not in the basics. The amount of money being dispensed also will be larger. But, that's about it.

More than a year ago, I contacted Carolyn Hagford at Alliant Tech Systems in Hopkins, MN (which is down the road from Minneapolis about 10 miles), and asked her if she'd be willing to be my feet in Minneapolis, if I needed any. She said yes. I have not asked anything of her, though, and I feel like I jilted her, so to speak. I know, too, that she has departed Alliant Tech now, and I don't think I'm going to see her at conference. Her willingness to help, though, was a boost to me in the dark days when I was the chair-elect and didn't have a clue as to where to start or what to do. Thanks, Carolyn, for being willing to help.

I'd like to mention a new journal to you at this time, and that is AIRCRAFT DESIGN: AN INTERNATIONAL JOURNAL. It's published by Elsevier, and volume 1, issue 1 was sent recently to prospective subscribers. I happened to receive a copy for review. On the editors of it is Dr. Jan Roskam from Kansas. Dr. Roskam's name is one

that aeronautical engineers around the world recognize. I contacted him about the journal and literally asked him to compare it, as it was projected, to established stalwarts in the field like JOURNAL OF AIRCRAFT, AEROSPACE ENGINEERING, AERONAUTICAL JOURNAL, and JOURNAL OF AEROSPACE ENGINEERING. Diplomatically, I think, he referred me to the the Aims and Scope note in the issue I had. It says that the journal wants to be a forum for worldwide exchange of knowledge between the academic world and industry, focusing on the design and integration of technology to influence the missions and specifications of aircraft, propulsion systems, controls, flight simulation, production and manufacturing, and structural materials of aircraft. I think the engineers at Bell Helicopter - where I work - think it's promising, but they're waiting to see what comes of it. I think that's what I'll be doing too.

Well, there's just one last thing I'm going to mention today. That's a letter I received recently from SLA that appealed to me as a professional to demonstrate my faith in the profession and SLA with a contribution to SLA. The point the letter makes in general is good and valid. We need to put our money where it will help not only ourselves but those who come after us. Putting it in SLA will demonstrate not only our commitment to our special futures and our branch of the profession but also in the organization, which benefits from this in the impression it leaves those who might invest in SLA. I think each of us needs to give this legitimate consideration. And, I have ... and will again and again until I reach a point of comfort. I have a problem however, in the suggestion that contributing "generously" is what's needed. "Generous" to me is \$250 or more, either rightly or wrongly. That's also about where appeals from my numerous universities start asking for contributions. Anything less than that, by inference, is insignificant.

When the number is growing of librarians I know that are considering and/or coming to conference using their own funds, I see a lot of sacrifice and contributions already being made ... because they do better themselves and their futures when they come to a conference. This may be the case only in the section, but I don't think so. I think it may be a problem for others, too. The "trend" also might reverse itself next year, and companies around the US will start paying again to send their librarians to conferences. I'd like to see that, particularly in Aerospace, where it always has seemed to be a problem.

I still hope everyone who can will make a donation to the association. I am undecided, however. I love the SLA and the point to which it has lead me. But, to ask seemingly for hundreds of dollars from all of us wanting "to demonstrate" our dedication to the profession is uncomfortable to me, probably as much so as it seems imperative for the SLA to ask for it. On this, I will have to find a middle ground, I'm sure. I want to help, but I can't be the kind of generous that comes to mind when I think of being generous. To do less, though, makes me think it will be a futile effort. Unconcernedly, either I or the SLA probably will not feel good about the decision I make. That's life in the fast lane, I guess.

NEW SCIENCE AND TECHNOLOGY JOURNALS

Earl Mounts, Editor
Linda Musser, Assistant Editor

Auto Asia. 1360-9416. 6/yr. \$170.00. URL:
<http://www.auto-asia.com/issue0399/index.htm>

This journal provides both technical articles and financial data on the automobile industry in Asia. Each issue includes global trends, conference reports, and product analyses. (EM)

Ferroelectrics Review. 1025-580X. Editors: G.W. Taylor and A.S. Bhalla.
Gordon & Breach. v.1, 1998. 4/yr. \$85.00 (individuals),
institutional rate available by contacting publisher.
URL:
www.gbhap.com/Ferroelectrics_Review/.

This journal is designed to allow scientists and engineers to keep abreast of developments that parallel and complement their own specialties within the rapidly growing and diversified field of ferroelectrics and related materials. It will include both invited and contributed articles on all aspects of ferroelectricity theory, measurement, and applications. (LM)

International Journal of Design Computing. 1329-7147.
Editor: M.L. Maher.
University of Sydney. v.1, 1998. URL:
www.arch.su.edu.au/kcdc/journal/.
Also available annually on CD-ROM for AUS\$25.

This refereed journal published on the World Wide Web will be archived by the University of Sydney Library. The objective of the journal is to promote research and technology transfer in design computing through the publication of interactive multimedia journal articles within the general topic of design computing. (LM)

Journal of Computational Analysis and Applications. 1521-1398.
Editor-in-Chief: G.A. Anastassiou. Plenum. v.1, 1999. 4/yr. \$160.00 (U.S.), \$185.00 (non-U.S.).

This peer reviewed journal publishes research articles from all areas of computational mathematical analysis. (LM)

Journal of Information Storage and Processing Systems. 1099-8047.
Editor-in-Chief: B. Bhushan. Birkhauser. 4/yr. \$185.00

This journal reports the latest international results of research in all the electromechanical, materials science, design, and manufacturing issues dealing with information storage and processing systems. This includes magnetic recording, optical recording, and other devices such as rigid disk, tape drives, copiers, and printers. (EM)

Journal of Mathematical Fluid Mechanics. 1422-6928.
Editors-in-Chief: G.P.

Galdi and J.G. Heywood. Birkhauser. 4/yr. \$213.00

This peer-reviewed journal will publish papers on the mathematical theory of fluid mechanics with special regards to the Navier-Stokes equations. (EM)

Journal of Risk Research. 1366-9877. Editor: R.E. Lofstedt. Routledge.
v.1,1998. \$220.00.

This official journal of the Society for Risk Analysis Europe and the Society for Risk Analysis Japan publishes peer-reviewed theoretical and empirical research articles within the risk field. Its aim is to promote better risk management practices and to contribute to improved methodologies.
(LM)


PharmSci. Editor-in-Chief: W. Sadee. American Association of Pharmaceutical Scientists. v.1, 1998. URL: www.pharmsci.org.

This journal, the electronic-only publication wholly owned by the American Association of Pharmaceutical Scientists (AAPS), covers all areas dealing with drug discovery, development, and therapy. Its goal is to disseminate scientific information worldwide by taking full advantage of the electronic publication medium. This includes the publication of articles with multimedia features, encompassing 3D graphics, video, interactive figures and databases, and sound. (LM)

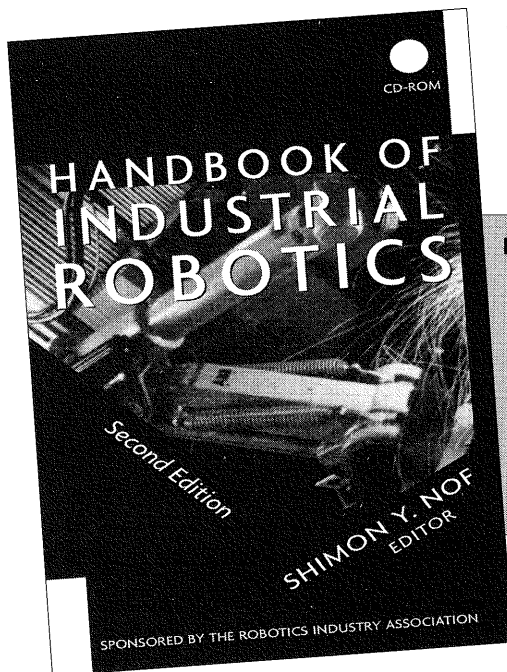
Physics in Perspectives. 1422-8047. Editors-in-Chief: J.S. Rigden and R.H. Stuewer. Birkhauser. v.1, 1999. 4/yr. \$190.00

This journal will convey a deeper understanding and appreciation of the way physics is conducted, of its content and application, and of the

profound influence that physics has had in changing our conception of the natural world and in shaping our modern scientific and technological culture.
(EM)

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Ellis Mount, Selector

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GEOGRAPHY, HYDROLOGY, ENVIRONMENT

G70 98-7865 0-471-29406-3

Manual of remote sensing, 3d ed.; v.2: Principles and applications of imaging radar.

Title main entry. Ed. by Floyd M. Henderson and Anthony J. Lewis.

John Wiley & Sons, 1998 866 p. \$198.00

Offers a survey of theory, methods, and applications of imaging radar, for geoscientists, engineers, and application scientists. Discusses basic principles of imaging radar, traces research activity across many sciences where radar remote sensing may be applied, and provides a snapshot of related technology such as radargrammetry, polarimetry, and interferometry. Combines technical coverage of systems, data interpretations, and other fundamentals with generous coverage of practical applications in fields such as forestry, oceanography, urban analysis, and archaeology.

GB1002 97-52701 0-471-97347-5

Field hydrogeology, 2d ed.

Brassington, Rick.

John Wiley & Sons, 1998 248 p. \$49.95 (pa)

New edition of a work first published in 1988.

Presents a conceptual model of how to investigate the hydrology of an area and explains how to decide on the measurements that are needed and on the instruments and techniques used to make them.

Measurements of groundwater levels, rainfall and evaporation, spring and stream flows, the use of groundwater tracer techniques, and safety aspects of field work are discussed. Additional topics included in this edition are the design and execution of pumping tests, groundwater sampling methods to meet the protocols adopted by national environmental regulators, and report writing and information presentation.

GE123 97-52805 0-8366-1220-5

Environmental science deskbook.

Title main entry. Ed. by James W. Conrad.

(Environmental law series)

West Group, 1998 -- p. \$140.00

Provides jargon-free explanations of basic terminology and concepts for environmental lawyers as well as corporate managers, loan officers, insurance underwriters, journalists, and governmental decision-makers. Eight chapters introduce the most fundamental concepts (numbers, notation and statistics, chemistry and physics, sampling and analytical issues, and risk assessment)

and then apply these ideas in the context of environmental media such as groundwater, surface water, solid waste and remediation, and air. Four-ring binder format.

GE300 97-43092 0-86542-838-7

The encyclopedia of ecology and environmental management.

Title main entry. Ed. by Peter Calow et al. Blackwell Science, 1998 805 p. \$199.95
A reference to the core definitions and issues associated with the multiplying subdisciplines of pure and applied ecology. Mixes dictionary-like short entries presenting details of specialized aspects, with encyclopedia-like long-essays that provide general overviews of broad subjects. A sampling of the entries turns up characters in ecology, effective population size, indicator species, nutrient budget, Ratcliffe index, and stratospheric chemistry. The extensive cross-referencing makes the lack of an index palatable.

PRODUCTION, INDUSTRY, COMMERCE

HD30 98-28234 0-471-28305-3

Building SET applications for secure transactions.

Merkow, Mark S. et al.
John Wiley & Sons, 1998 404 p. \$39.95 (pa)
Helps large and small business owners add the secure electronics transaction (SET) standard to existing or new merchant commerce sites, and helps company webmasters and systems administrators implement SET throughout the entire system's development life cycle. Requires familiarity with the Internet, distributed processing concepts, and Web-based technologies.

HD69 98-84983 0-12-449970-8

Breakthrough technology project management.

Lientz, Bennet P. and Kathryn P. Rea.
Academic Press, 1999 289 p. \$44.95 (pa)
Addresses such issues as project management strategy; engaging multiple projects; establishing

projects and project plans; managing a range of high-technology projects, including software development and implementation, and technology and networking; and coping with specific issues related to personnel, management, technology, vendors, and contractors.

HD75 98-5815 1-85898-883-7

Industrial development and environmental degradation; a source book on the origins of global pollution.

Park, Se Hark and Walter C. Labys.
Edward Elgar Pub. Co., 1998 187 p. \$80.00
After an introduction to the problems of industrial development and environmental degradation, subsequent chapters deal with the depletion of water, energy, and mineral resources considered as industrial inputs; and air, water, and land pollutants generated as industrial outputs (including global warming, hazardous wastes, and toxic chemicals). Information on the pollution provided by individual industries and specific industrial processes is detailed, and discussion covers economic benefits of investment in particular pollution abatement technologies. Much of this resource is of particular importance in a developing country context. The two authors are economists, Park at Yokohama National University in Japan, and Labys at West Virginia University in the US.

HE8700 98-29310 0-471-25165-8

Residential broadband; an insider's guide to the battle for the last mile.

Maxwell, Kim.
John Wiley & Sons, 1999 390 p. \$39.99 (pa)
Advances an argument for how a huge "information superhighway" ù high-speed interactive communications to individual homes ù market will likely develop in the next 30 years. It lays out a template for market growth, assesses 15 major applications from work at home and video-on-demand to remote museums and video shopping, and forecasts lines, revenues, and costs.

Interesting note: the author conjectures that the Internet's presently central role in residential communications will be diminished by a paradigm of largely local storage of information.

HF5548 98-8514 0-201-32573-X
Mission-critical Java project management; business strategies, applications, and development.
 Dennis, Gregory C. and James R. Rubin.
 (Addison-Wesley Information Technology Series)
 Addison-Wesley, 1999 246 p. \$34.95 (pa)
 Provides information technology professionals with a foundation for making decisions on the role of Java in their corporate IT strategy. Documents the advantages and challenges of building Java-based business systems, using case studies to illustrate the use of Java in typical business applications, including customer sales support, electronic commerce, and human resource service delivery. Other subjects include application performance, developer productivity, and the impact of Java on business systems.

HF5548 98-44679 0-13-099715-3
Using SET for secure electronic commerce.
 Drew, Grady N.
 Prentice Hall, 1999 265 p. \$44.99 (pa)
 Secure Electronic Transactions (SET) is a protocol designed by Mastercard, Visa, and a group of Internet technology vendors for the purpose of supporting credit card purchases on the Internet. This manual furnishes online merchants and programmers/system administrators with a basic understanding of the SET protocol, including software components, encryption and cryptography, certification, and payment messaging.

SCIENCE (GENERAL)

Q141 98-39490 0-8065-2025-6
Nobel Prize women in science; their lives, struggles, and momentous discoveries, rev. ed.
 McGrayne, Sharon Bertsch.

Citadel Press, 1998 451 p. \$19.95 (pa)
 Explores the reason for the disparity in the number of male and female Nobel Prize recipients by examining the lives and achievements of 15 women scientists who either won a Nobel Prize or played a crucial role in a Nobel Prize-winning project. Begins with Marie Curie—the first woman to win the Nobel Prize in physics—then introduces other winners, including Christiane Nüsslein-Volhard, Emmy Noether, Lise Meitner, Barbara McClintock, Chien-Shiung Wu, and Rosalind Franklin.

MATH, COMPUTERS

QA76 98-87882 0-8186-9221-9
High-assurance systems engineering symposium; proceedings.
 IEEE International High-Assurance Systems Engineering Symposium. (3rd: 1998: Washington, DC.)
 Computer Society Press, 1998 321 p. \$120.00 (pa)
 Comprises 39 papers and panel discussion summaries from the November 1998 conference, divided into sections on: formal/analytic methods for dependability; an architecture and reliability model of high-assurance systems; reliability modeling; survivability and security; design for high assurance; fault analysis and predication; testing and analysis; and high-assurance in intelligent systems. Individual topics include: using composition to design secure, fault-tolerant systems; design considerations in Boeing 777 fly-by-wire computers; object-oriented software testing; a firewalled scheme for securing MPOA-based enterprise networks; fast antirandom test generation; and agent information contracts within virtual private networks. Indexed by author only.

QA76 98-35397 0-8493-9802-9
Industrial applications of neural networks.

Title main entry. Ed. by Lakhmi C. Jain and V. Rao Vemuri. (International series on computational intelligence)

CRC Pr., 1999 325 p. \$89.95

Ten contributions explore techniques and technologies for applying artificial neural networks to a range of engineering endeavors. Three of the articles are devoted to the areas of multimedia, cellular, and mobile communications. The remaining seven articles emphasize industrial or manufacturing image processing issues such as those related to shape recognition, shape from shading, aircraft detection in SAR images, visualization of high-dimensional databases of industrial systems, 3-D object learning and recognition from multiple 2-D views, and fingerprint identification in flexible manufacturing systems.

QA76 98-29940 1-884777-60-0

Internet & Intranet applications with PowerBuilder 6.

Cervenka, Tom.

Manning Publication Co., 1999 374 p. \$43.95 (pa)

A guide to building web browser and server programs with the PowerBuilder (PB) 6 Internet Toolkit which mainly contains code, examples, and explanations of components of the program. Also covered is how to write winsock programs with PB and Distributed PB to the extent necessary to learn Web.PB, application building with Windows Plug-in/Active X and Datawindow Plug-in.

QA76 0-13-079669-7

Java by example; 3d ed. (CD-ROM included)

Jackson, Jerry R. and Alan L. McClellan. (Java series)

Sun Microsystems Press, 1999 558 p. \$39.99 (pa)

Concentrates on topics helpful to programmers making the transition to Java and provides detailed examples of those topics. The primary focus of this manual explores the Java inner classes mechanism,

reflection, and the collection classes. Updated to cover the key API's and enhancements to the JDK 1. Examples build from the simple to the complex and show how to take advantage of Java 1.2 multireading, exception handling, security, and networking capabilities.

QA76 98-31109 0-201-31012-0

Objects, components, and frameworks with UML; the catalysis approach.

D'Souza, Desmond F. and Alan Cameron Wills.

(The Addison-Wesley object technology series)

Addison-Wesley, 1999 785 p. \$49.95 (pa)

Explains how to use a new method, which combines Unified Modeling Language (UML) notation with frameworks and objects, to design, build, and reuse component based software. The authors explore how recurring patterns of structure, behavior, and refinement arise in the requirements and specifications of models. They demonstrate how to use those patterns to build designs and models rapidly by adapting and composing both generic and domain-specific modeling frameworks.

QA76 98-30448 0-13-949033-7

Oracle Developer/2000 Forms.

Lulushi, Albert.

Prentice Hall, 1999 952 p. \$49.99 (pa)

Brings together the material needed to get Forms applications up and running fast. Covers key concepts and tools, Forms applications at work, and how to integrate Forms modules with other tools in the Developer/2000 suite and with other technologies such as Java and ActiveX. Topics include the Form Builder and Runtime environments; navigation, editing, libraries, and PS/SQL; data blocks, items, windows, and record structures; using forms with Report, Graphic, and Project Builder; and combining forms with MS applications via DDE, OLE, and ActiveX. The accompanying CD-ROM includes dozens of applications and examples.

QA76.15 98-6984 0-7641-0094-7
Dictionary of computer and Internet terms, 6th ed.
 Title main entry. Ed. by Douglas A. Downing and Michael Covington.

Barron's Educational Ser., 1998 526 p. \$9.95 (pa)

New edition of a handy, compact (4x7") reference that now contains 2,500-plus computer terms with definitions, hundreds of words and expressions that apply specifically to the Internet, and user-friendly descriptions of programming concepts and various applications.

QA76.5 0-13-081156-4
Dare to be excellent; case studies of software engineering practices that worked.
 Title main entry. Ed. by Alka Jarvis and Linda Hayes.

Prentice Hall, 1999 348 p. \$32.99 (pa)
 Offers a detailed examination of how each of ten different contemporary software development organizations handled a real development obstacle, from the initial identification of the problem through development of the solution.

QA76.58 97-51310 0-8186-8398-8
Parallel database techniques.
 Title main entry. Ed. by Mahdi Abdelguerfi and Kam-Fai Wong.
 Computer Society Press, 1998 222 p. \$40.00
 Presents techniques for designing parallel relational databases to meet the requirements of increased database sizes and the growing need for more sophisticated functionality, such as the support of object-oriented applications. The nine papers address the request manager, the data manager, the parallel machine architecture, and concerns about different techniques for the partitioned data store. No index.

QA76.618 98-6560 0-471-98095-1

Intelligent system applications in power engineering; evolutionary programming and neural networks.

Lai, Loi Lei.

John Wiley & Sons, 1998 264 p. \$120.00
 Inspired by the human brain's parallel structure, intelligent system techniques (artificial neural networks plus evolutionary algorithms) have been applied to electric power engineering projects since the 1980s. In this textbook for advanced graduate courses in electric power engineering and reference for practitioners, Lai (City U., London) presents power engineering optimization applications in this rapidly evolving field. Its first three chapters deal with neural networks, evolutionary computing, and hybridization (the trend in solving increasingly difficult problems). The subsequent chapters treat specific applications of evolutionary programming and neural networks in power systems. Theoretical considerations and cost-effectiveness are not overlooked. Contains supporting formula, figures, and tables.

QA76.64 98-38783 0-201-43305-2
Putting metaclasses to work; a new dimension in object-oriented programming.

Forman, Ira R. and Danforth, Scott H.
 Addison-Wesley, 1999 300 p. \$39.95 (pa)
 Provides a concrete demonstration of how metaclasses can be used to increase productivity and reusability in object-oriented programming. Presents a C++-based programming language for metaclasses, the theory of reflective class-based object-oriented models, the inheritance of metaclass constraints, and basic metaobject protocol used to program new metaclasses that isolate reusable properties. In the process, develops object technology from first principles, and presents examples of their use.

QA76.73 97-183185 0-13-079660-3
Not just Java; a technology briefing, 2d ed.

Van der Linden, Peter. (The Sun Microsystems Press Java series)

Prentice Hall, 1997 329 p. \$39.99 (pa)

New edition of a briefing for IT professionals who need an executive summary of Java's impact on the Web, intranets, and E-commerce, as well as the role it will play in lowering the cost of computing. Coverage includes: the major players in the computer industry and their Java strategies; how Java fits with DHTML, XML, and other Internet technologies; what Java libraries are available; component development with Java; and the security of Java as compared with the alternatives. The author is a Java programmer and an employee of the language's developer, Sun Microsystems.

QA76.76 98-25815 0-8493-9803-7

Knowledge-based intelligent techniques in industry.

Title main entry. Ed. by L.C. Jain et al. (CRC Press international series on computational intelligence) CRC Pr., 1999 336 p. \$89.95

For electrical engineers working in industry and researchers working in computational research laboratories, outlines the current techniques and cost-effective solutions for applying intelligent techniques to industrial problems, especially designing and monitoring complex and less predictable electrical or mechanical systems. Concentrates on practical solutions rather than theories, and tends more toward illustration than mathematics. The fields discussed include power distribution, transportation, medicine, and communications.

QA76.76 98-178655 1-56592-378-2

Managing the Windows NT registry.

Robichaux, Paul E.

O'Reilly & Associates Inc, 1998 360 p. \$39.95 (pa)

This system administrator's guide to maintaining, monitoring, and updating the registry database addresses emergency repair disks, both the original registry editor and Microsoft's 32-bit Registry editor,

selected resource kit utilities, links to third-party registry tools, system policies, and programming interfaces into the registry. An associated web site provides a database of registry keys.

QA76.76 98-71151 0-7645-3209-X

NT network plumbing; routers, proxies, and web services.

Northrup, Anthony.

IDG Books, 1998 599 p. \$39.99 (pa)

Leads networking professionals through the maze of bridges, routers, and gateways to design and manage an efficient NT 4.0 internetwork. The author provides step-by-step guidelines for assessing networking needs, acquiring the best LAN and WAN hardware and software, and implementing Internet connectivity that is reliable, secure, and requires minimal maintenance.

QA76.76 98-44897 0-201-60459-0

The rational unified process; an introduction.

Kruchten, Philippe. (Addison-Wesley object technology series)

Addison-Wesley, 1999 255 p. \$29.95 (pa)

An introduction to the software development process which provides a disciplined approach to assigning, managing, and completing tasks within a software development organization. The author, the lead architect of the product, looks at software development best practices, iterative development, and numerous workflows within the process such as modeling, testing, deployment, and implementation. Each of the workflow chapters covers the purpose of the workflow, the work products and roles of the process, and tool support.

QA76.76 98-44785 0-89006-644-2

Software process improvement with CMM.

Raynus, Joseph. (Artech House computer science library)

Artech House, 1999 198 p. \$59.00

The foreword writer from Sun Microsystems, Inc. lauds certified CMM evaluator Raynus as one who

has successfully translated complex software engineering processes and calculations into management-friendly terms and graphs. (Small wonder, since his resume includes being manager-software vendor.) With Sufi stories quixotically conveying the moral that intuition is the only real guide to knowledge, the author illuminates software process management and CMM (the Capability Maturity Model developed by the Software Engineering Institute), what the assessors are seeking, process focus, connecting the software development life cycle and project management, data collection dimensions, and software metrics.

QA76.76 98-38747 0-07-057923-7

Software reuse; domain analysis and design processes.

Sodhi, Jag and Prince Sodhi.

McGraw-Hill Book Co., 1999 344 p. \$65.00

Focusing on domain analysis and design processes, this volume sets out a detailed approach to large-scale software projects, integrating object-oriented components, design patterns, and conversion tools that make code written for one purpose serve other uses. Suitable for software managers, analysts, and developers.

QA76.76 98-19929 1-57610-265-3

Windows 98 black book.

Wallace, Nathan.

Coriolis Group Books, 1998 690 p. \$39.99 (pa)

Written for users who are upgrading to Windows 98 from older programs or are maintaining Windows 98 on a multiple-PC network, this problem solving guide discusses installation, system and registry configuration, application use, desktop settings, disk and tape drives, memory, modems, LAN and WAN networking, Web TV, and a number of other aspects of the Windows 98 software package. The CD-ROM contains CoffeeCup HTML Editor++98, Macromedia Director, Macromedia DreamWeaver, and other applications.

QA76.76 98-8202 1-57610-294-7

Windows 98 registry little black book.

Holden, Greg.

Coriolis Group Books, 1998 371 p. \$29.99 (pa)

A guide to editing and using the Windows 98 Registry. Discussing the hazards and benefits of working with the registry, the author explores customizing the configuration, system monitoring, creating file associations, troubleshooting, and alternatives to registry use.

QA76.8 97-21100 1-885068-12-3

Exploring IBM personal computers, 9th ed.

Hoskins, Jim and Bill Wilson.

Maximum Press, 1997 332 p. \$34.95 (pa)

Updates the reference providing help with selecting, integrating, and managing IBM personal computers in small, medium, and large business environments. Includes the current computer systems, disk drives, DVD-ROM drives, printers, communicating adapters, peripherals, operating systems, Internet configurations, and other aspects. A companion Web site offers ongoing news and information. The extensive glossary does not indicate pronunciation. No bibliography.

QA76.88 98-44444 0-89871-428-1

Numerical linear algebra for high performance computers.

Title main entry. Ed. by Jack J. Dongarra et al. (Software, environments, tools)

SIAM, 1998 342 p. \$37.00

Supersedes the Society's 1990 Solving Linear Systems on Vector and Shared Memory Computers, by including considerable new material and substantially revising the existing text. Presents a unified treatment of recently developed techniques and the current understanding about solving systems of linear equations and large-scale eigenvalue problems on high-performance computers. Also serves as a quick introduction to vector and parallel processing for those linear algebra applications.

QA76.9 98-39842 0-7923-8288-9
Custom memory management methodology; exploration of memory organisation for embedded multimedia system design.
 Catthoor, Francky.
 Kluwer Academic Pubs., 1998 344 p. \$128.00
 Provides an overview of the state-of-the-art in system-level memory management (data transfer and storage) related issues for complex data-dominated real-time signal and data processing applications. Each of the six authors introduces a system-level data transfer and storage exploration methodology for data-dominated video applications. This methodology addresses the power and area reduction cost components in the architecture for the system-level busses and background memories. Several realistic demonstrators are included, and the general applicability and effectiveness has been substantiated for several industrial data-dominated applications, including H.263 video conferencing, decoding, and medical computer tomography (CT) back projection. The book is aimed at researchers, design engineers and CAD managers, and is based on research at IMEC from 1989-1997.

QA76.9 98-29384 0-7923-8252-8
Data mining methods for knowledge discovery.
 Cios, Krzysztof J., et al. (Kluwer international series in engineering and computer science; 458)
 Kluwer Academic Pubs., 1998 495 p. \$149.00
 Introduces data mining methods that are frequently used in the process of knowledge discovery. First elaborates the fundamentals of data mining methods, including rough sets, Bayesian analysis, fuzzy sets, genetic algorithms, machine learning, neural networks, and preprocessing techniques. Then discusses these methods in the setting of the overall process of knowledge discovery. Numerous illustrative examples and experimental findings are included. For students and professionals in computer and information sciences, medical informatics, and business information systems.

QA76.9 98-38523 0-8493-1815-7
Data mining; technologies, techniques, tools, and trends.
 Thuraisingham, Bhavani M.
 CRC Pr., 1999 270 p. \$59.95
 Provides an overview of data mining's uses, methods, technologies, commercial products, and future challenges. Part I describes technologies involved, such as warehousing and visualization, and Part II presents specific tools and techniques. Part III examines emerging trends, including mining distributed and heterogeneous data sources, multimedia data, metadata aspects of mining, and privacy issues. Includes appendices on data management and artificial intelligence.

QA76.9 98-154051 1-56592-356-1
Developing Windows error messages.
 Ezzell, Ben.
 O'Reilly & Associates Inc, 1998 240 p. \$39.95 (pa)
 Targeted at developers who are responsible for implementing error messages, and intended to help improve the lamentable state of error messages in software. Arguing that "most error messages are themselves errors in judgment that often do less to inform than to confuse," the author offers a detailed analysis of what's wrong with error messages, shows how they might be prevented, and presents new methods of error message presentation, and discuss issues relevant to error logging. The included CD-ROM contains ErrorMessage.DLL (for C, C++, and MFC programmers) and ErrorShell.DLL (for Visual Basic programmers).

QA76.9 98-112177 1-884133-55-X
Hacker proof; the ultimate guide to network security. (CD-ROM included)
 Klander, Lars.
 Jamsa Press, 1997 660 p. \$54.95 (pa)
 A comprehensive guide to network security. The author evaluates the risks and examines defenses including firewalls, encryption, digital signatures, the

secure socket layer, Kerberos Key Exchange, and virus protection. He also looks at security threats that are specific to different operating systems including UNIX, X-Windows, Windows NT, and Novell NetWare. The CD-ROM contains an evaluation copy of the Ballista software and a trial version of LanOptics Guardian 2.2.

QA76.9 98-30045 0-13-080371-5

Interactive data warehousing.

Singh, Harry.

Prentice Hall, 1999 481 p. \$49.99

A guide to creating a Web-based data warehouse architecture emphasizing maximum growth and flexibility. Discussing how to choose the best platforms, technologies, and organizational strategies, the author covers warehousing goals, how to distribute functions across the enterprise, and managing and optimizing the architecture.

QA76.9 98-134163 1-56592-206-9

Java distributed computing.

Farley, Jim. (The Java series)

O'Reilly & Associates Inc, 1998 368 p. \$32.95 (pa)

Explains how to design and write distributed applications in Java, with material on RMI and CORBA, designing protocols to build message-passing systems, using Java's security facilities, and writing multithreaded servers. Special attention is paid to distributed data systems, collaboration, and applications that have high bandwidth requirements. Assumes knowledge of Java syntax and structure and object-oriented concepts.

QA76.9 97-52146 0-7914-3931-3

User-centered technology; a rhetorical theory for computers and other mundane artifacts.

Johnson, Robert R. (SUNY series, Studies in scientific and technical communication)

State U. of New York Pr., 1998 195 p. \$59.50

Presents a theoretical model for examining technology through a user perspective. Begins with a

historical overview of the problem of technology use through the lens of rhetoric theory, and defines central areas of user-centered theory, such as user knowledge, human- technology interaction, and technological determinism. Draws also from human factors engineering, history, philosophy, and sociology to discuss ideological presuppositions of technology design and technological determinism. Ideas are applied in academic and nonacademic contexts.

QA214 98-27321 0-89871-415-X

Methods for solving systems of nonlinear equations, 2d ed.

Rheinboldt, Werner C. (CBMS-NSF regional conference series in applied mathematics; 70)

SIAM, 1998 148 p. \$34.00 (pa)

A survey of computational methods of solving nonlinear equations in several variables. Focusing on general concepts, results, and applications, the author covers Newton and secant type methods, parametrized systems of equations, unconstrained minimization, piecewise-linear methods and nonlinear generalizations of matrix classes.

PHYSICS

QC441 98-10444 0-471-14302-2

Fundamentals of polarized light; a statistical optics approach.

Brosseau, Christian.

John Wiley & Sons, 1998 405 p. \$89.95

Presents light polarization theory and its practical applications in modern technologies such as telecommunications, pollution control, and medical diagnostics. After a historical survey of polarization optics, Brosseau (physics, U. of Brest, France) discusses classic radiation field theory, and polarization and the radiation field. With the set of these theoretical tools, the effect of propagation of light through a linear optical system is explored. The final section describes applications to selected topics including propagation of partially polarized light in

anisotropic media and the measurement methods of the Stokes parameters and of the polarization matrices. For researchers in the field of polarization optics and graduate students in physics and optics.

TECHNOLOGY (GENERAL)

T58 98-25787 0-13-947870-1

Information systems control and audit.

Weber, Ron.

Prentice Hall, 1999 1013 p. \$82.67

Provides a solid foundation for the study of information systems auditing, which was established to evaluate whether computer-based systems safeguard assets, maintain data integrity, achieve organizational objectives effectively, and consume resources efficiently. With a focus primarily upon the controls that can be used to reduce losses to acceptable levels, 24 chapters provide an overview and discuss management and application control frameworks, evidence collection and evaluation, and audit management.

T58 98-29655 0-8493-7167-8

Information technology management; a knowledge repository.

Liebowitz, Jay.

CRC Pr., 1999 201 p. \$39.95 (pa)

Drawing from his experience in a variety of business organizations, the author presents a variety of short case studies, vignettes, and anecdotes dealing with the management of expert systems technology. Despite the emphasis on expert systems, says the author, the material is just as pertinent to lessons on information systems technology.

ENGINEERING (GENERAL, CIVIL)

TA169 1-86058-086-6

A practical guide to engineering failure investigation.

Matthews, Clifford.

Professional Engineering Pub., 1998 260 p. \$131.00

Explains to mechanical engineers how to use their technical knowledge to the best effect when dealing with insurers, loss adjusters, their representatives who are investigating the cause of serious engineering failures. Using an ongoing case study throughout, considers such aspects as professional roles and responsibilities, the strategy and tactics of failure investigations, the inspection visit, preparing a design and operation appraisal, the mechanics of failure, deciding the cause or causes, and presenting conclusions. Also useful for engineers planning to become consultants or expert witnesses.

TA174 98-26531 0-7923-8195-5

Nonlinear modeling; advanced black-box techniques.

Title main entry. Ed. by Johan A.K. Suykens and Joos P.L. Vandewalle.

Kluwer Academic Pubs., 1998 256 p. \$125.00

This collection of eight contributions presents advanced black-box techniques for nonlinear modeling. The methods discussed include neural nets and related model structures for nonlinear system identification, enhanced multi-stream Kalman filter training for recurrent networks, the support vector method of function estimation, parametric density estimation for the classification of acoustic feature vectors in speech recognition, wavelet based modeling of nonlinear systems, nonlinear identification based on fuzzy models, statistical learning in control and matrix theory, and nonlinear time-series analysis. The volume concludes with the results of a time-series prediction competition held at a July 1998 workshop in Belgium.

TA213 98-38289 0-13-716267-7

Construction equipment management.

Schaufelberger, John E.

Prentice Hall, 1999 357 p. \$66.67

Describes the basic issues and analytical tools that managers in the construction industry need to understand to make decisions about equipment

ranging from versatility to cost effectiveness. Discusses such aspects as depreciation accounting techniques, ownership and operating costs, estimating equipment costs, project scheduling, and the fundamentals of earthmoving. Assumes a basic understanding of the construction process. For use as a textbook, includes exercises and problems; an instructor's manual is available.

TA357 96-29931 1-56700-109-2

Laser diagnostics in fluid mechanics.

Rinkevichius, Bronius Simovich.

Begell House, 1998 341 p. \$115.00

Describes methods of laser diagnostics of fluid and gas flows currently finding application in aero- and hydro-dynamic studies in fields including power engineering, metallurgy, and environmental science. Part I considers general aspects of physical optics, laser techniques, and coherent radiation scattering theory. Part II is mainly concerned with the Doppler technique of fluid flow local velocities measurement and its use in the analysis of various flow characteristics. Describes optical layouts and signal shaping techniques for laser Doppler anemometers and their application in fluid flow diagnostics.

TA382 98-37262 0-8247-0072-4

Concrete formwork systems.

Hanna, Awad S. (Civil and environmental engineering series; v.2)

Marcel Dekker, 1999 262 p. \$150.00

Provides technical descriptions and evaluations of ten current framework systems, assists contractors in choosing the optimal system, and presents the design criteria using the stress and stress modification factors provided by the American Plywood Association and the National Design Specifications. Framework systems for concrete slabs, walls, and columns are covered, including conventional wood, ganged, jump, slip, self raising, conventional metal, flying, and metal forms, as well as the column mounted shoring system. Consideration is given to topics such as system

components, typical work cycles, productivity, and the advantages and disadvantages associated with various systems.

TA403 0-87849-769-2

Impact response and dynamic failure of composites and laminate materials; 2v.

Title main entry. Ed. by J.K. Kim and T.X. Yu.

(Key engineering materials; v.141-143)

Trans Tech Publications, 1998 794 p. \$228.00

(pa)

Consists of two volumes providing engineers, designers, and materials scientists with information concerning the characterization of impact damage and predictions of damage resistance in composites and laminate materials. The nearly 20 contributions in the first volume discuss damage resistance of composites subjected to low-velocity and ballistic impact in terms of the microstructure-property relation and the correlation between impact energy, damage size, and residual strength. Contributions in the second volume address the dynamic response of composite structures with an emphasis on strain rate effect and energy absorption characteristics. Modeling of deformation and failure mechanisms under impact and dynamic damping are specifically addressed. B&w illustrations.

TA409 97-80259 1-85312-427-3

Dynamics of atmospheric flows; atmospheric transport and diffusion processes.

Title main entry. Ed. by Singh, M.P. and S. Raman. (Advances in fluid mechanics; v.18)

Computational Mechanics, 1998 246 p. \$135.00

Covers topics of transport and diffusion processes with special emphasis on the Atmospheric Boundary Layer (ABL) - the part of the atmosphere in which most air pollutants are released and transported by mean winds and dispersed by turbulent eddy motions. Specific topics include the current understanding of the ABL, urban air pollution, mesoscale atmospheric processes important for short and long range transport and diffusion, and a

diagnostic formalism developed for studying the Lagrangian-mean motion of a tracer in the stratosphere.

TA410 98-34435 0-8493-8226-2

Image analysis applications in materials engineering.

Wojnar, Leszek. (Materials science and technology series)

CRC Pr., 1999 245 p. \$79.95

Provides basic principles of image acquisition, enhancement, measurement, and interpretation, oriented toward applications and properties of available tools. Assesses case studies from industrial and research practice, and presents solution-oriented algorithms based on authentic experience. Offers an orientation for solving problems without reference to specific hardware or software, and minimizes theoretical background and mathematical formalism. Includes abundant b&w photos and images. For specialists using image analysis equipment.

TA418 1-57498-044-0

Manufacturing of electronic materials and components.

Title main entry. Ed. by Asish Ghosh et al. (Ceramic transactions; v.90)

Am. Ceramic Society, 1998 180 p. \$95.00

Surveys some of the commercial successes in endeavors to design ceramic components that are cheap and easy to manufacture. The 15 papers, from a May 1997 symposium in Cincinnati, Ohio, look at transducers, thermistors, varistors, and ceramic devices. Among the specific topics are fabricating and modeling composite PZT shear transducer devices, the preparation and electrical properties of lanthanum-tin-zirconium oxide by co-precipitation with high-temperature melting, producing multilayer zinc-oxide varistors in praseodymium systems, and factors in the degradation of multilayer ceramic chip capacitors

with nickel electrodes. Several of the papers are double spaced.

TA418 1-56700-103-3

Thermodynamics of critical phenomena; new analysis of the evaluation of properties.

Rabinovich, V.A. and Yu. E. Sheludyak. Trans. by Lucia Man.

Begell House, 1998 162 p. \$90.00

Shows how complex analysis of the critical phenomena involved in the behavior of the thermodynamic properties of substances in the critical region of a liquid-gas system allows for the construction of a unified equation of state for the liquid-gas system. For researchers in power engineering, cryogenic technology, thermal and molecular physics, and physical chemistry. No index.

TA459 98-45866 0-87170-654-7

Metals handbook; desk edition, 2d ed.

Title main entry. Ed. by J.R. Davis.

ASM International, 1998 1521 p. \$189.00

New single-volume edition of a reference source on the properties, selection, processing, testing, and characterization of metals and their alloys. The general introduction contains a glossary of about 3,000 terms, common engineering tables, graphs comparing properties of metals and nonmetals, articles on crystal structure, practical uses of phase diagrams, engineering design, and materials selection. Subsequent topics include irons, steels, and high-performance alloys; nonferrous alloys and special-purpose materials; processing; and testing, inspection, and materials characterization.

TA658 98-21972 0-13-639246-6

Statics and strengths of materials for architecture and building construction.

Onouye, Barry.

Prentice Hall, 1999 548 p. \$65.33

A text which weaves together both mathematical and visual treatments of the science of how forces and materials interact in architectural structures.

Attempting to avoid too heavy a reliance on calculus, the authors treat such topics as load tracing, bending and shear in beams, column analysis and design, statics, and analysis of selected determinate structural systems.

TA660 98-16289 0-13-374950-9

Analysis of shells and plates.

Gould, Phillip L.

Prentice Hall, 1999 496 p. \$95.00

Presents a unified development of the mechanics of shells and plates emphasizing fundamental engineering aspects and covering fundamental geometric and static relationships from an integrated mathematical and physical point of view. Coverage includes geometry, applications of membrane theory to different types of shells, deformations, boundary conditions, bending and stability of plates, and bending theory and stability of shells. Concludes with a section on future applications of thin shells. Intended primarily for advanced students and practitioners in civil, mechanical, and aeronautical engineering and engineering mechanics.

TA1637 98-24465 0-8493-2532-3

The image processing handbook, 3d ed.

Russ, John C.

CRC Pr., 1999 771 p. \$99.95

A comprehensive reference for students and professionals in the sciences, engineering, telecommunications, artificial intelligence, or any of the other many fields in which images are processed. Describes the techniques used both to enhance an image for human perception and to prepare an image for testing or measurement. Includes frequency- space methods with extensive mathematical presentations, and spatial- domain processing, which requires only a modest technical background in mathematics or computers. Explains the principles behind the popular software so readers can program or adjust it to meet particular constraints or goals. Highly illustrated, mostly in

black and white. No dates are noted for the earlier editions.

TA1637 97-42909 0-8194-2513-3

Random processes for image and signal processing.

Dougherty, Edward R. (SPIE/IEEE series on

imaging science & engineering)

SPIE, 1999 592 p. \$80.00

Concerns the engineering purposes of the analysis and synthesis of linear and nonlinear systems that operate on spatial and temporal random functions. Because the author's major concern is algorithm development, he focuses on three basic problems of operator synthesis: representation, filter design, and modeling. Chapters cover basic probability, random functions, canonical representation, transform coding, optimal filter design, neural networks, Markov chains, and the theory of random closed sets.

TA1800 0-13-020141-3

Understanding optical communications.

Dutton, Harry J.R. (ITSO networking series)

Prentice Hall, 1998 760 p. \$64.99 (pa)

A senior engineer with IBM explains to engineers and to technologically savvy potential users the next revolutionary wave in fiber optics he sees on the horizon, which will bring such advanced technologies as Wavelength Division Multiplexing that will increase capacity in the usual spreading array of applications down eventually to private houses. He explains principles and components of optical communications, optical systems and interfaces, several specific systems, and integrating them with networks.

HYDRAULIC ENGINEERING

TC176 97-46941 0-8493-2698-2

The handbook of groundwater engineering.

Title main entry. Ed. by Delleur, Jacques W.

CRC Pr., 1999 -- p. \$99.95

Compiles many classical and more modern approaches to understanding and modeling subsurface flow and transport. Twenty-seven chapters synthesize new knowledge in the field of groundwater engineering such as techniques for the remediation of contaminated groundwater, approaches to computer modeling of the flow and movement of contaminants, and modeling the heterogeneity of the geological formations and their effects on flow and transport.

ENVIRONMENTAL TECHNOLOGY

TD171 98-6453 0-444-89847-6

Geoenvironmental engineering.

Mohamed, Abdel M.O. and Hogan E. Antia.
(Developments in geotechnical engineering; 82)
Elsevier Science, 1998 708 p. \$201.00

Devoted to the principles of sustainable development and its corollary, environmentally responsible waste management and restoration of the environment, this volume provides geoenvironmental engineers with a summary of soil biology, chemistry, mechanics, mineralogy, and physics necessary to understand waste management and environmental restoration problems. The volume's 22 chapters cover three broad areas of information: background material for understanding the main elements governing the problem of waste management and restoration; the methods currently in use for assessing subsurface pollution and evaluating its impact on human health and the environment; and the various remedial options. Includes an extensive glossary, as well as references and suggested readings.

TD193 98-12078 0-471-97297-5

Pollution risk assessment and management.

Title main entry. Ed. by Peter E.T. Douben.
(Ecological and environmental toxicology series)
John Wiley & Sons, 1998 464 p. \$170.00
Contributors from Europe and the US introduce and interpret the principles of integrated pollution

control and its relationship to risk management, for technical or non-technical professionals in either field. They address such issues as sustainable development, non-standard emissions, standards and risk for human health and environmental protection, toxicity assessment and its role in regulation, biomarkers for monitoring and measuring effects, socio- economic dimensions of pollution control, legal and political considerations, and the public perception and communication of risk.

TD319 98-8183 0-7923-5136-3

Water supply management.

Stephenson, David. (Water science and technology library; v.29)
Kluwer Academic Pubs., 1998 306 p. \$135.00
Overviews water supply management, focusing on maintenance, rehabilitation, and operation of existing systems rather than design and construction. Contains chapters on water sources, water requirements, system design, supply management and water cost, demand management and price, drought management of reservoirs, conjunctive use of alternative sources, loss control and rehabilitation, computer technology and asset management, water quality and treatment, and water supply to developing communities. Much material draws on experience in South Africa.

TD886 97-80273 1-85312-517-2

Air pollution emissions inventory.

Title main entry. Ed. by H.Power & J.M.Baldasano.
(Advances in air pollution series)
Computational Mechanics, 1998 238 p. \$117.00
Contains six invited review articles addressing topics on emissions inventory and modeling, providing background to understanding air pollution problems, and describing the regulatory and management processes created to address air pollution. Chapters in this volume address guidelines and formulations of an upgrade source emission model for atmospheric pollutants; spatial and temporal disaggregation of emission inventories; modeling the

emissions of real vehicles at macroscale and microscale; the construction and use of an emissions inventory for local air quality management; validation and verification of emission inventory data; and the forecasting of SO₂ time series. Lacks an index.

TD890 92-8071-434-1

Monitoring industrial emissions and wastes; a manual.

Title main entry. United Nations Environment Program and United Nations Industrial Development Organization. (Technical report; No.27)

United Nations Environment Programme, 1996 132 p. \$40.00 (pa)

Procedures are given for stages and steps required to carry out systematic monitoring programs for industrial emissions and wastes, whether in house or by special monitoring organizations. Chapters describe basic steps, training, and cost procedures, and give four case studies on monitoring programs of different levels of cost and complexity. About 70 pages of appendices give information on terms, national and international standards, procedures for sampling and measurement, and analytical options. No index.

BUILDING CONSTRUCTION

TH2025 98-43380 0-07-070443-0

Structural details manual.

Williams, David R.

McGraw-Hill Book Co., 1999 484 p. \$59.95

Provides structural engineers, architects, contractors, and professionals who are only occasionally engaged in building design and construction, with samples of contract drawings for commercial construction projects that illustrate the necessary structural details. Explains what should be shown and specified, and the conventions for doing so in accompanying text and notes. Covers foundations, concrete, masonry, steel, and timber. Assumes

readers already know how to render the drawings, either by hand or computer. No bibliography.

TH7687 1-86058-157-9

Low-energy cooling technologies for buildings; challenges and opportunities for the environmental control of buildings.

Title main entry. (IMEchE seminar publication)

Professional Engineering Pub., 1998 107 p. \$99.00

Contains eight papers on current developments in technologies such as night ventilation for cooling, slab cooling, desiccant dehumidification and evaporative cooling, chilled ceilings with displacement ventilation, and mixed-mode ventilation systems. Covers design and control requirements, and tools and techniques needed for successful integration of these technologies into a building structure. No index. Distributed by ASME.

MECHANICAL ENGINEERING & MACHINERY

TJ153 98-26184 0-88415-661-3

Improving machinery reliability.

Bloch, Heinz P. (Practical machinery management for process plants; v.1, 3d ed.)

Gulf Pub. Co./Book Div., 1998 680 p. \$95.00

Sets out proven techniques and procedures that extend machinery life, reduce maintenance costs, and achieve optimum machinery reliability in the petroleum processing industry. Draws from the Best Practices in the US and Europe, and compares them with Good and Better Practices. Earlier editions were published in 1982 and 1988; the new material here includes availability and reliability statistics for major machinery, benchmarking data, guidance for relevant life-cycle cost studies, electric motor reliability, modern sealing technology, and synthetic lubricants. Well illustrated with line drawings and graphs.

TJ213 97-34538 0-471-24906-8

Modern control system theory and design, 2d ed. Shinnars, Stanley M.

John Wiley & Sons, 1998 719 p. \$98.00
Presents a unified treatment of classical and modern continuous control systems and shows how to apply theory to realistic design problems, promoting an interactive, computer-based approach to design solutions. This second edition features a new chapter on modern control system design, MATLAB programs and solutions incorporated into the text, a complete set of working digital computer programs, reviews of commercial software packages, and expanded problems and worked solutions. MATLAB software is available electronically. For use in introductory courses in control systems.

TJ213 97-52402 0-471-11589-4
Robust control of nonlinear uncertain systems.
Qu, Zhihua. (Wiley series in nonlinear science)
John Wiley & Sons, 1998 527 p. \$89.95
Presents a definitive treatment of stability analysis and robust control design for nonlinear uncertain systems. Utilizes a Lyapunov- based approach to control design to develop design procedures, to correlate leading techniques in the field to the structural properties of uncertain systems, and to compare robust and nonrobust types of controls. Presents the pros and cons of specific methods, rationales for choosing particular design parameters, and tips on performance and system structure. For engineers and graduate students in mechanical, electrical, and aerospace engineering.

TJ222 98-9919 0-7923-8199-8
Supervisory control of discrete event systems using Petri nets.
Moody, John O. and Panos J. Antsaklis. (The Kluwer international series on discrete event dynamic systems; 8)
Kluwer Academic Pubs., 1998 185 p. \$115.00
Presents a novel approach for supervisory control of discrete event systems using Petri nets. Concepts of supervisory control and discrete event systems are explained, and background material on general Petri net theory is provided. A large number of examples

are used to illustrate concepts and techniques presented. Material is written from an engineering perspective, but it is also appropriate for students of computer science, applied mathematics, and economics. For use with students and engineers interested in control problems in chemical process plants, manufacturing, and computer networks.

TJ223 98-18811 0-13-089103-7
Digital control using digital signal processing.
Nekoogar, Farzad and Gene Moriarty. (P-H information and system sciences series.)
Prentice Hall, 1999 433 p. \$70.00
Begins with a review of digital control systems and their design and basic mathematical concepts including difference equations, the z- transform, and state-variable methods. Then applies the fundamentals of digital signal processors to such control systems, describing such state-space techniques as pole placement, state estimation, and optimal linear quadratic regulation. Also considers advanced topics, among them chaos in nonlinear control systems and fuzzy logic control. For practicing engineers, graduates, and advanced undergraduates with some background in linear systems theory and linear algebra and a familiarity with the CAE, MATLAB, and MATRIX software packages. Has been used in courses.

TJ233 98-38125 0-8247-9974-7
Friction and lubrication in mechanical design.
Seireg, Ali. (Mechanical engineering; 118)
Marcel Dekker, 1998 548 p. \$195.00
Developed from and suitable for a senior, graduate, or professional development course. Treats friction, lubrication, and wear as empirical phenomena relying heavily on Seirig's (U of Wisconsin- Madison and U. of Florida-Gainesville) experimental studies to develop practical tools for design. Whenever possible, presents empirical dimensionless relationships that can be applied to a variety of situations confronting design engineers without extensive theoretical analysis or computation. Begins

by reviewing the history of the subject and summarizing the relevant relationships necessary to analyze contact mechanics in smooth and rough surfaces, and concludes by detailing some of the experimental techniques Seireg and his colleagues have developed.

TJ1370 98-27340 0-471-16291-4
The vertical transportation handbook, 3d ed.
 Title main entry. Ed. by George R. Strakosch.
 John Wiley & Sons, 1998 564 p. \$89.95
 Surveys vertical transportation mechanisms such as elevators, wheelchair platforms, and escalators, emphasizing modernization of existing systems. Coverage includes installation, operation, regulation, specification, and maintenance, plus unconventional applications and the latest trends. Useful for architects, contractors, and real estate professionals. This third edition incorporates changes in technology and standards since 1983, and offers greater emphasis on accessibility.

ELECTRICAL ENGINEERING, ELECTRONICS, NUCLEAR ENGINEERING

TK1541 98-18157 0-471-97143-X
Grid integration of wind energy conversion systems.
 Heier, Siegfried.
 John Wiley & Sons, 1998 385 p. \$160.00
 Addresses technical, economic, and safety issues inherent in the exploitation of wind power in a competitive electricity market, focusing on improved use of grid capacities and grid support for fixed- and variable-speed controlled wind power plants. Coverage includes electrical and mechanical components of wind power plants, and design, construction, and installation. First published in German in 1996 by B. G. Teubner Stuttgart, under the title *Windkraftanlagen im Netzbetrieb*, 2. "bearbeitete und erweiterte Auflage.

TK3001 0-85296-923-6
Protection of electricity distribution networks.

Juan M. Gers and Edward J. Holmes (IEE power engineering series; 28)

IEE, 1998 341 p. \$90.00

This guide covers both the practical and theoretical aspects of electrical protection equipment. Main topics covered include theory and calculation of fault currents; overcurrent, differential, and distance protection; guidelines on the coordination of fuses, reclosers, and sectionalizers; design of an automatic load shedding system for industrial plants; and installation, testing, and maintenance of protection systems. 200 plus schematic diagrams are included, along with worked examples and exercises with solutions. Detailed protection coordination calculations are given for typical system configurations, and specific protection schemes are studied.

TK3351 98-41244 0-8247-9976-3

Electrical power cable engineering.

Title main entry. Ed. by William A. Thue. (Power engineering; 7)

Marcel Dekker, 1999 307 p. \$145.00

Focusing on cables for low and medium voltage, presents updated information on the design, manufacture, installation, testing, operation, and performance expectations. Details the various components of power cables; explains how the conductor material, size, and design depend on ampacity, voltage regulation, and other factors; compares ethylene propylene co-polymers and ter-polymers to polyethylene and its cross-linked version; explains the purposes of metallic and nonmetallic cable shields; reviews various thermoplastic jacket materials; addresses the design, application, and preparation of terminated and spliced cables; describes the reduction of sheath losses in large cables; assesses methods for testing shielded power cable systems; and considers other topics.

TK5101 98-6583 0-8493-3404-7

Network design; management and technical perspectives.

Mann-Rubinson, Teresa C. and Kornel Terplan.
CRC Pr., 1999 405 p. \$74.95

An introduction, for telecommunication managers and technical professionals, to the principles and analytical techniques used in designing advanced communication networks. Although basic and broad information is emphasized in the presentation, case studies illustrate specific implementations of the technology. Chapters cover WAN network design, value added networks, intranets, and outsourcing design and planning.

TK5102 98-38829 0-7923-8261-7
Independent component analysis; theory and applications.

Lee, Te-Won.

Kluwer Academic Pubs., 1998 210 p. \$118.00

Based on theories in probabilistic models, information theory, and artificial neural networks, several unsupervised learning algorithms such as infomax, maximum likelihood estimation, negentropy maximization, nonlinear PCA, Bussgang algorithm, and cumulant-based methods are presented that can perform ICA. These theories are then reviewed and incorporated into a theoretic framework that ties together several lines of research. The algorithms are extended to deal with the multichannel blind deconvolution problem. The second section focuses on the signal processing applications of ICA in fields such as biomedical signal processing problems and functional magnetic resonance imaging data.

TK5105 98-36914 0-13-759515-8
Advanced Internet technologies.

Black, Uyless. (Prentice Hall series in advanced communications technologies)

Prentice Hall, 1999 346 p. \$49.99

From the perspective of telecommunications professionals, examines the technology relating to the growing transition of network providers from

traditional circuit-switched networks to IP-based, packet-switched networks. Describes the Internet's architecture, protocols, and traffic characteristics; and reviews the key issues in transforming the Internet from its data-only roots to a multi-service network that can handle voice, video, and multimedia with comparable quality and reliability.

TK5105 98-3862 0-12-593185-9

Building better Web pages.

Rohan, Rebecca Frances.

AP Professional, 1998 288 p. \$34.95 (pa)

Promises readers can make a World Wide Web site do more without leaning to program or script and give it a professional look without going to design school. Includes discussions of creating templates, embossed backgrounds, smoothing image jaggies, choosing between a GIF and a JPG, special effects for sounds and images, and making users feel safe buying. Uses the HTML 4.0 standard rather than a proprietary extension, and supports plain-text alternatives. No bibliography.

TK5105 98-154052 1-56592-319-7

Virtual private networks.

Scott, Charlie et al.

O'Reilly & Associates Inc, 1998 177 p. \$29.95 (pa)

Tells how to plan and build a virtual private network (VPN), using a collection of technologies that creates secure connections over regular Internet lines. Starts with general concerns like costs, configuration, and how a VPN fits in with other networking technologies like firewalls, then continues with detailed descriptions of how to install and use VPN technologies for Windows NT and Unix. For network administrators with LAN experience.

TK5105 98-156460 0-13-650920-7

Web site engineering; beyond Web page design.

Powell, Thomas A.

Prentice Hall, 1998 324 p. \$39.95 (pa)

Discusses the management, technical, and operational issues that arise from treating Web sites as application deployment platforms rather than simple graphic presentations. Written for organizational managers, the book explains such material as software engineering principles, how the Web works, problem definition and exploration, requirements analysis and specification, implementing site and system design, testing functionality and content, and the promotion and maintenance of completed sites.

TK7870 98-39250 0-07-038185-2

Circuit troubleshooting handbook.

Lenk, John D.

McGraw-Hill Book Co., 1999 390 p. \$59.50

Without abstract theory or complicated math, guides the reader through complex electronic circuits, and points out specific problems in circuit malfunctions. Emphasis is placed on testing, and the circuit's response to the test. Particularly valuable in troubleshooting experimental circuits, or when a particular circuit fails repeatedly. Covers such circuits as op-amp, OTA, audio-amp, and linear supply, among others.

TK8320 98-16423 0-471-14959-4

Optical semiconductor devices.

Fukuda, Mitsuo. (Wiley series in microwave and optical engineering)

John Wiley & Sons, 1999 422 p. \$94.95

Focuses on optical semiconductor devices and their numerous applications in telecommunications, optoelectronics, and consumer electronics. Introduces a new generation of devices that includes optical modulators, quantum well lasers, and photodiodes, and explores new applications of more established devices. Examines the material properties, operation principles, fabrication, packaging, reliability and applications of each device, and tells what engineers and scientists need to know at different phases of research, development, and production.

MOTOR VEHICLES, AERONAUTICS, ASTRONAUTICS

TL509 98-28541 0-7680-0245-1

SAE dictionary of aerospace engineering, 2d ed.

Title main entry. Ed. by Joan L. Tomsic.

Soc./ Automotive Engin'rs, 1998 748 p. \$79.00

New edition of a dictionary designed specifically for aerospace engineers. Provides 20,000-plus definitions of technical terms related to aerospace technology, including entries taken from the SAE Aerospace Standards, the NASA Thesaurus, and Engineering Resources, Inc. Also of interest to clerical people who support aerospace engineers and technicians and engineering students and writers.

MINING ENGINEERING

TN275 98-28643 0-87335-163-0

Techniques in underground mining; selections from Underground mining methods handbook.

Title main entry. Ed. by Richard E. Gertsch and Richard L. Bullock.

Soc. for Mining, Metal., & Expl., 1998 823 p. \$115.00 (pa)

Comprises 44 contributions divided into sections on methods requiring minimum support, stopes requiring additional support other than pillars, sublevel caving, and block and panel caving. Individual paper topics include general mine planning, the room-and-pillar method of open-stope mining, large blasthole stoping, cut-and-fill stoping, and the climax panel and extraction system. The work condenses the 1982 Underground Mining Methods Handbook until a completely new text can be written.

TP155 98-38897 1-55617-665-1

Safety shutdown systems; design, analysis, and justification.

Gruhn, Paul and Harry Cheddie.

Instrument Soc. of America, 1998 239 p. \$68.00
 "Engineering responsibility should not require the stimulation that comes in the wake of catastrophe." This caption to an introductory cartoon (each chapter has one) sums up the authors' philosophy that with computer control of complex systems with the potential for large-scale disasters, engineers and managers in the process industries responsible for safety instrumented systems (the term finally settled on by the ISA SP84 committee) do not have the luxury of learning from experience. To avert complacency and accidents, the text focuses on such aspects and real-world examples of safety instrumented systems as design, technology choices, purchasing, analysis and testing techniques, documentation, and technical and economic justifications. The math level hovers about simple algebra.

TP156 98-84372 0-12-666260-6
Metabolic engineering; principles and methodologies.

Stephanopoulos, Gregory N. et al.
 Academic Press, 1998 725 p. \$99.95
 A detailed exploration of the interdisciplinary field of metabolic engineering, including its applications to the production of chemicals, fuels, materials, and pharmaceuticals. The focus is on metabolism, but the concepts of pathway analysis are broad and are generally applicable to other types of reaction sequences, including those involved in protein expression and post-translational modification or in signal transduction pathways. Sidebars address on various mathematical operations as well as computational tools for pathway analysis. For graduate or advanced undergraduate level students, ideally but not necessarily with prior exposure to an introductory biochemistry course.

TP157 97-46872 0-471-25424-X
Chemical reaction engineering, 3d ed.
 Levenspiel, Octave.
 John Wiley & Sons, 1999 668 p. \$99.95

An introductory text, emphasizing qualitative arguments, simple design methods, graphical procedures, and capabilities of major reactor types. Times is taken to discuss why certain assumptions are made, and to indicate the limitations of the treatment when applied to real situations. Coverage include homogeneous reactions in ideal reactors, flow patterns and nonideal flow, reactions catalyzed by solids, and biochemical reaction systems. This third edition contains some 400 problems, 75% of them new. Assumes background in elementary calculus and linear first-order differential equations.

TP157 96-1052 0-13-531708-8
Elements of chemical reaction engineering, 3d ed.
 Fogler, H. Scott. (P-H international series in the physical and chemical engineering sciences)
 Prentice Hall, 1999 967 p. \$95.00

A text/CD-ROM combining user-friendly software and classic algorithms, emphasizing problem solving through reason rather than memorization. A structured approach helps develop skills in critical thinking, creative thinking, and problem solving, by employing open-ended questions and stressing the Socratic method. Includes background appendices and chapter problems. The companion CD-ROM includes lecture notes, problem solving software, derivations and other reference material, and homework problems. Margin icons in the text link concepts and procedures to material on the CD-ROM.

TP360 98-84422 0-12-410950-0
Biomass for renewable energy, fuels, and chemicals.
 Klass, Donald L.

Academic Press, 1998 651 p. \$99.95
 A thorough, multidisciplinary introduction to the subject for the student and professional wishing to become knowledgeable about the production and consumption of biomass energy and its potential long-range impact. The volume addresses the history of biomass energy research, its development, deployment efforts, the environmental impact of

biomass energy usage, its potential for replacing fossil fuels, commercial systems already in place, and conventional and advanced biomass energy technologies.

TP692 98-155010 0-86587-607-X

Underground storage tank management; a practical guide, 5th ed.

Title main entry.

Government Institutes Inc., 1998 391 p. \$89.00 (pa)

This practical guide to regulatory compliance and good management practice addresses key issues in underground storage tank (UST) management. Offers recommendations for developing and maintaining UST management programs that minimize the risk of a release and reduce the potential for costly repercussions. The main emphasis is petroleum storage. The 5th edition addresses updates to the EPA's approval of state regulatory and trust fund programs, soil sampling and analytical guidelines, and new state-of-the-art technologies. No index.

TP1120 98-33644 1-56990-262-3

Polymer processing fundamentals.

Osswald, Tim A.

Hanser/Gardner Pub., 1998 229 p. \$34.95 (pa)

Ties material behavior to the various processing techniques applied in the manufacturing of plastic parts. Written at two levels: the introductory level appropriate for students and engineers unfamiliar with the discipline presented in plain text; and the advanced level geared toward those with some background in the field shown in shaded text.

MANUFACTURES

TS156 98-35544 0-86587-638-X

Implementing an ISO 9000-based quality system.

Murphy, Raymond J.

Government Institutes Inc., 1998 267 p. \$59.00 (pa)

Following a definition, interpretation, and history of ISO 9000, the author provides an implementation model based on his experience at the American Bureau of Shipping. Basing his approach on the principles of total quality management and continuous improvement, he discusses the initial steps in the development and implementation of a quality system; a series of self-assessments for organizations; and details of the implementation process, including the quality system manual, primary work processes, controlled document issuance, and internal audits. Also includes a representative case study.

TS156 89-78544 0-87389-019-1

Principles of quality costs; principles, implementation, and use, 2d ed.

Campanella, Jack.

ASQ Quality Press, 1990 150 p. \$30.00 (pa)

The revised edition of a book which explores the impact of quality control on the success of an organization and details a method for facilitating quality program and quality improvement activities. Written for both manufacturing and service sector managers, the volume illustrates basic principles of the quality cost system and its implementation.

TS173 97-39270 0-471-14328-6

Statistical methods for reliability data.

Meeker, William Q. and Luis A. Escobar (Wiley series in probability and statistics. Applied probability and statistics section)

John Wiley & Sons, 1998 680 p. \$84.95

Explains computer-based statistical methods for reliability data analysis and test planning for industrial products. Demonstrates how to apply the latest graphical, numerical, and simulation-based methods to a broad range of models found in reliability data analysis, and covers areas such as analyzing degradation data, simulation methods used to complement large-sample asymptotic theory,

and data analysis computed with the S-PLUS system. Includes chapter exercises using real data sets. For professionals in product reliability and design, and for graduate students in courses in applied reliability data analysis.

MILITARY & NAVAL SCIENCE

UA23 98-22207 1-57488-178-7

The U.S. military online; a directory for Internet access to the Department of Defense, 2d ed.

Arkin, William M.

Brassey's, 1998 242 p. \$32.95 (pa)

Contains pointers to some 2000 official military sites at the Pentagon and various bases throughout the world. Information is provided regarding the business side of the Department of Defense; think tanks, schools, libraries, and history collections; the Departments of the Air Force, Army, and Navy; and basic information resources.

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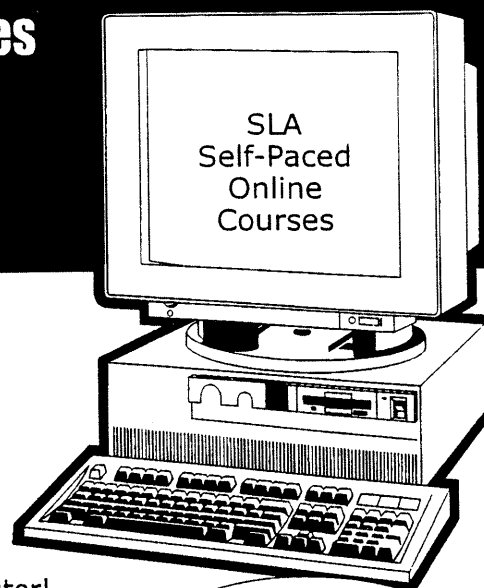
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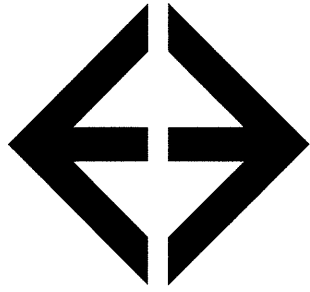


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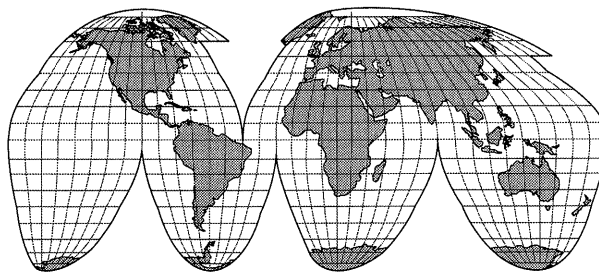


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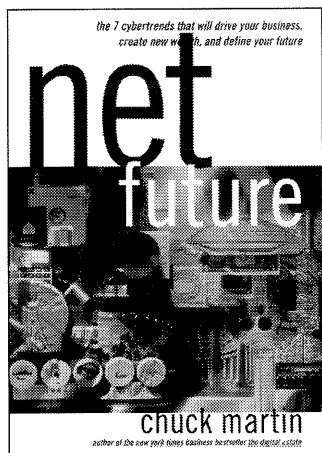


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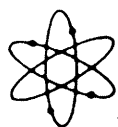
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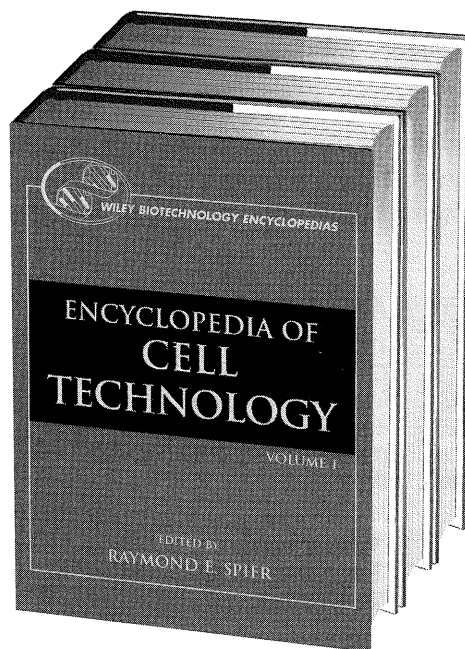
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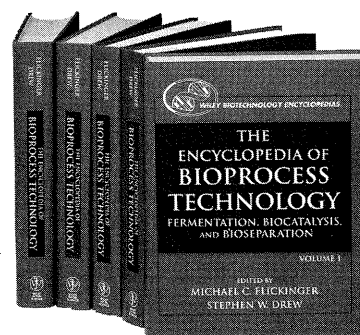
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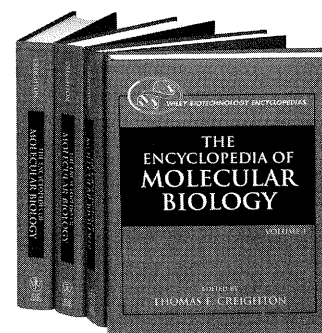
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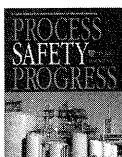
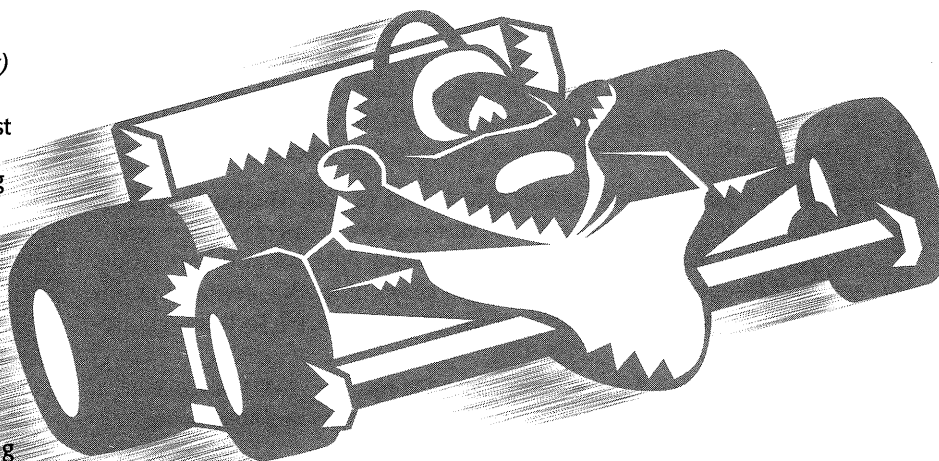
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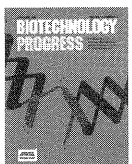
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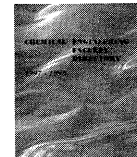
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